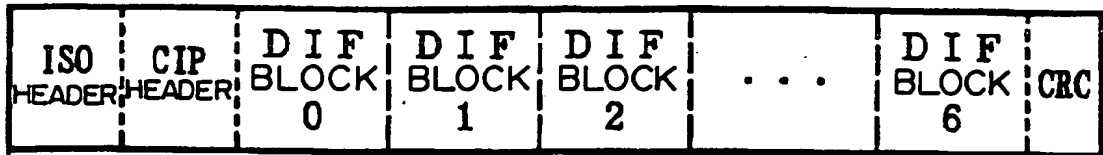


FIG. 1 PRIOR ART

(a)



(b)



ONE FRAME

(c)

0	ffffff
1	avvvvv
2	vvvvvv
3	vvvvav
4	vvvvvv
5	vvvvvv
6	vvavvv
7	vvvvvv
8	vvvvvv
9~16	REPEAT PATTERN
17~24	REPEAT PATTERN
⋮	⋮
249	vvvvvv

REPEAT PATTERN

DIF SEQUENCE

FIG. 2

PRIOR ART

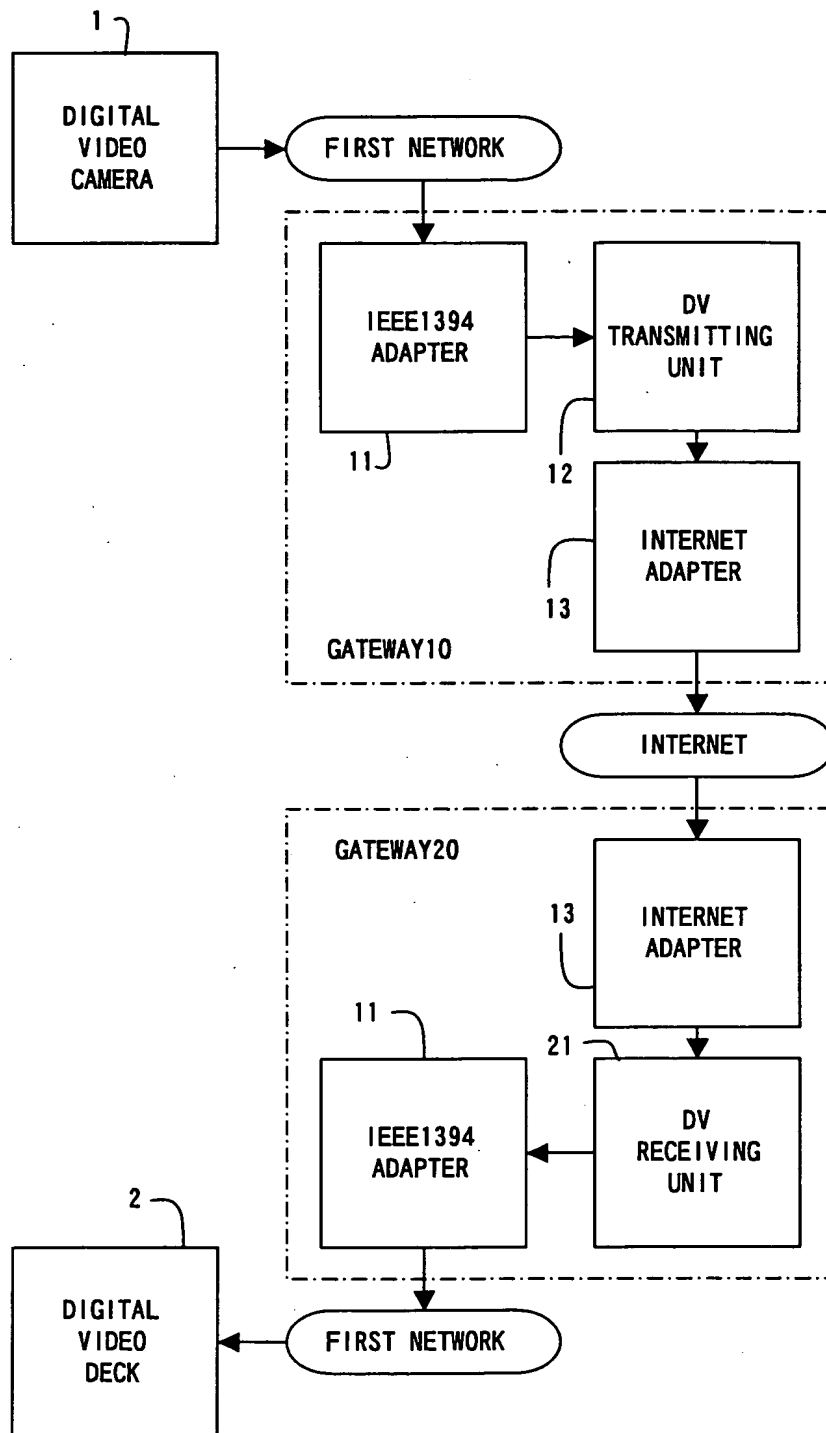


FIG. 3

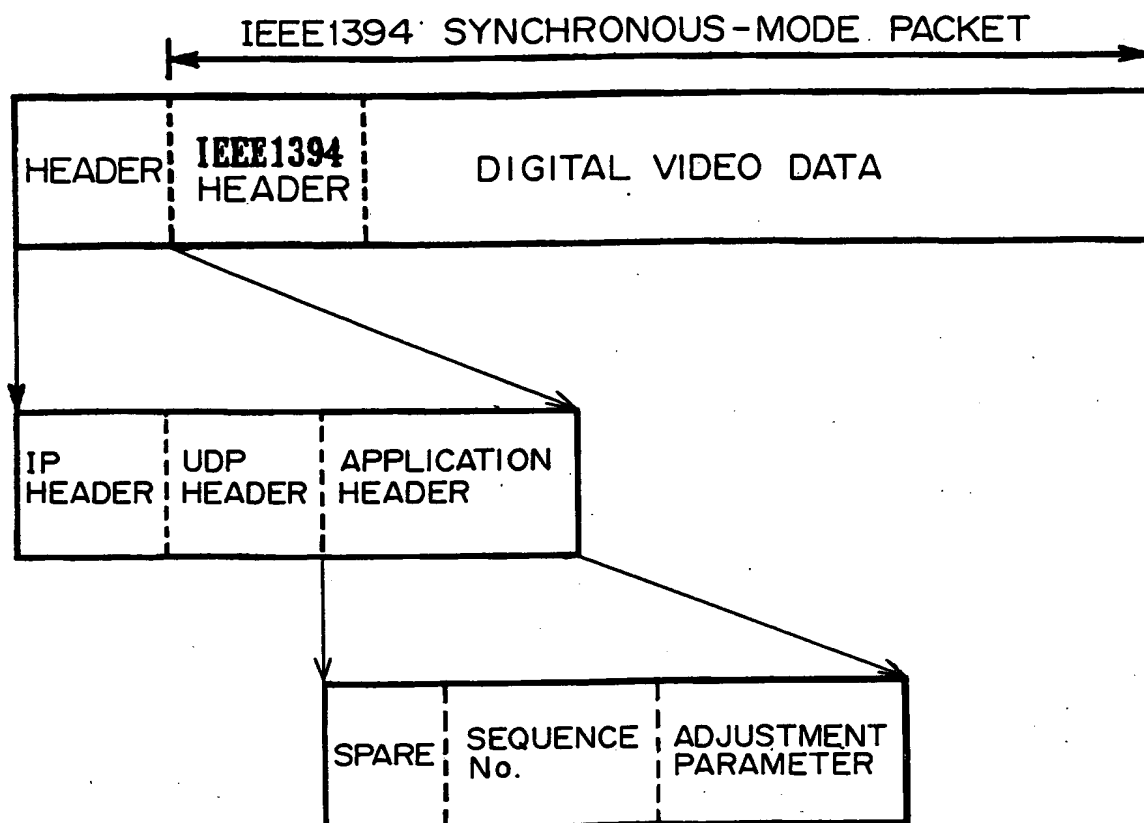


FIG. 4 PRIOR ART

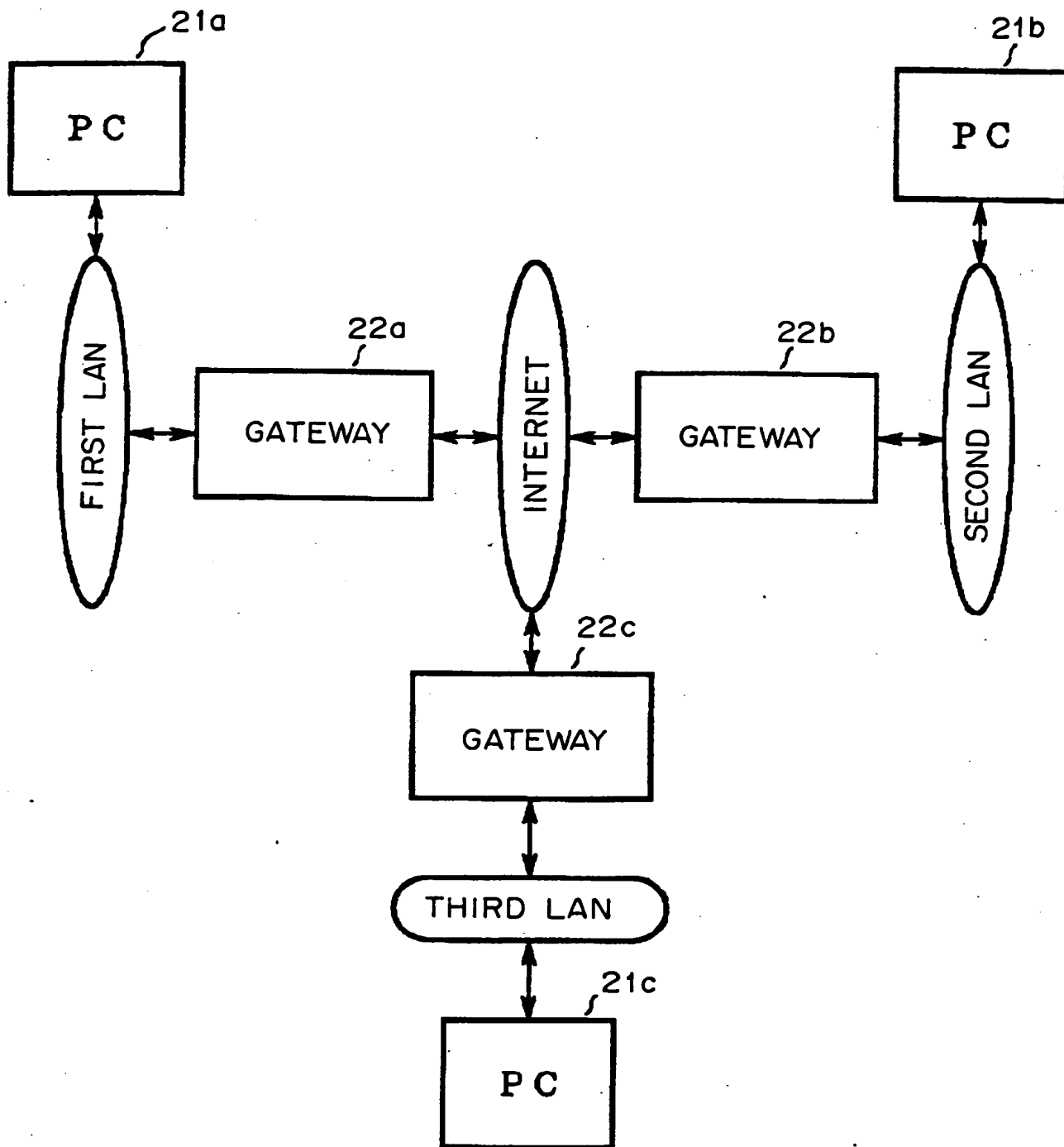


FIG. 5

PRIOR ART

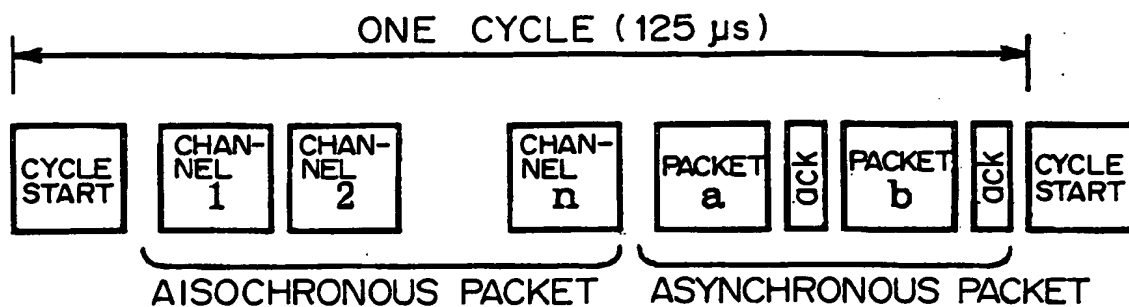


FIG. 6A PRIOR ART

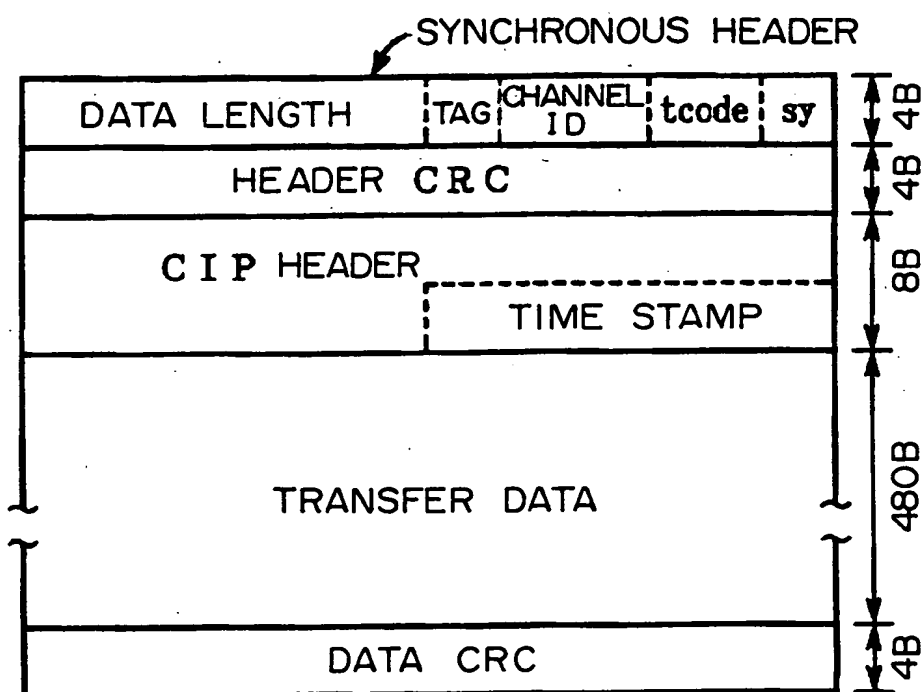


FIG. 6B PRIOR ART

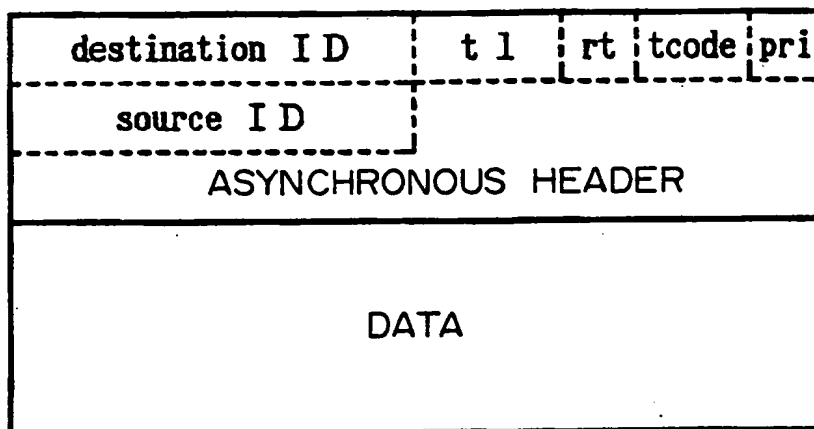


FIG. 6C PRIOR ART

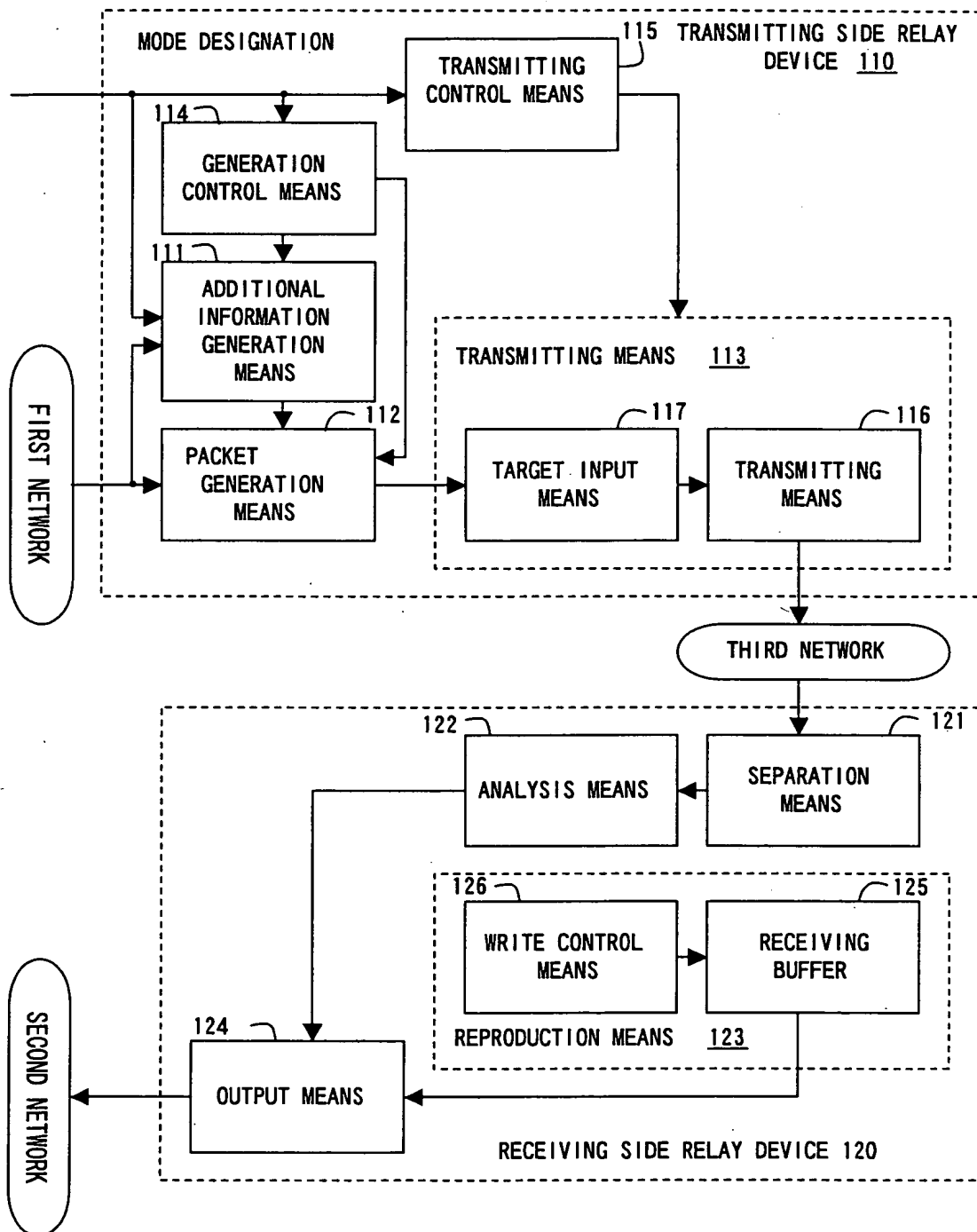


FIG. 7

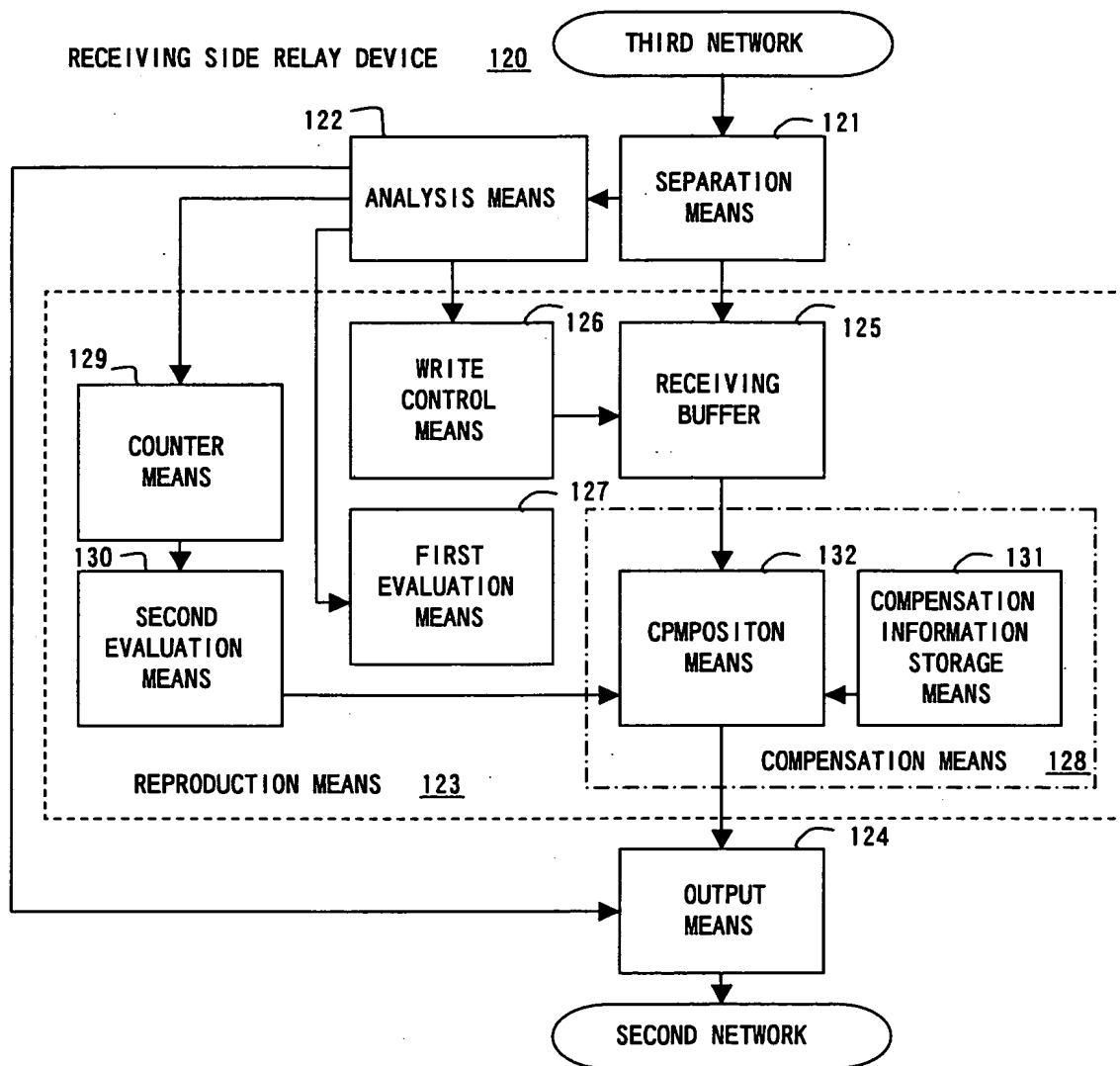


FIG. 8

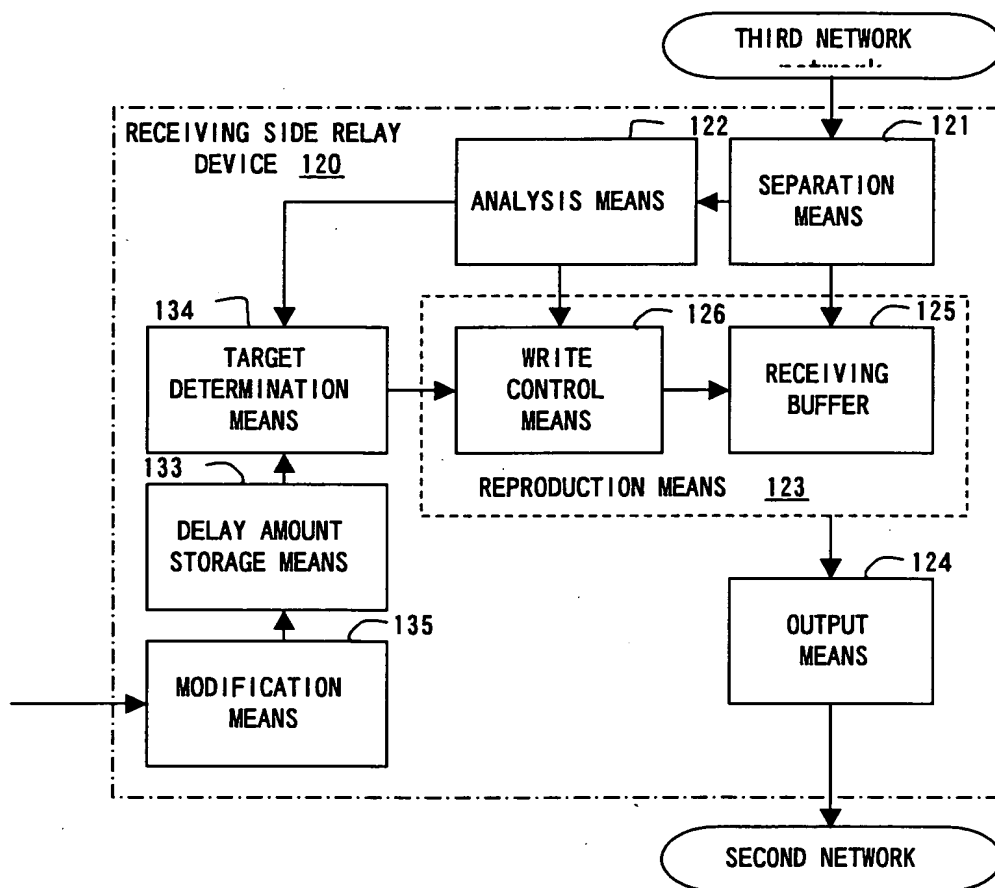


FIG. 9

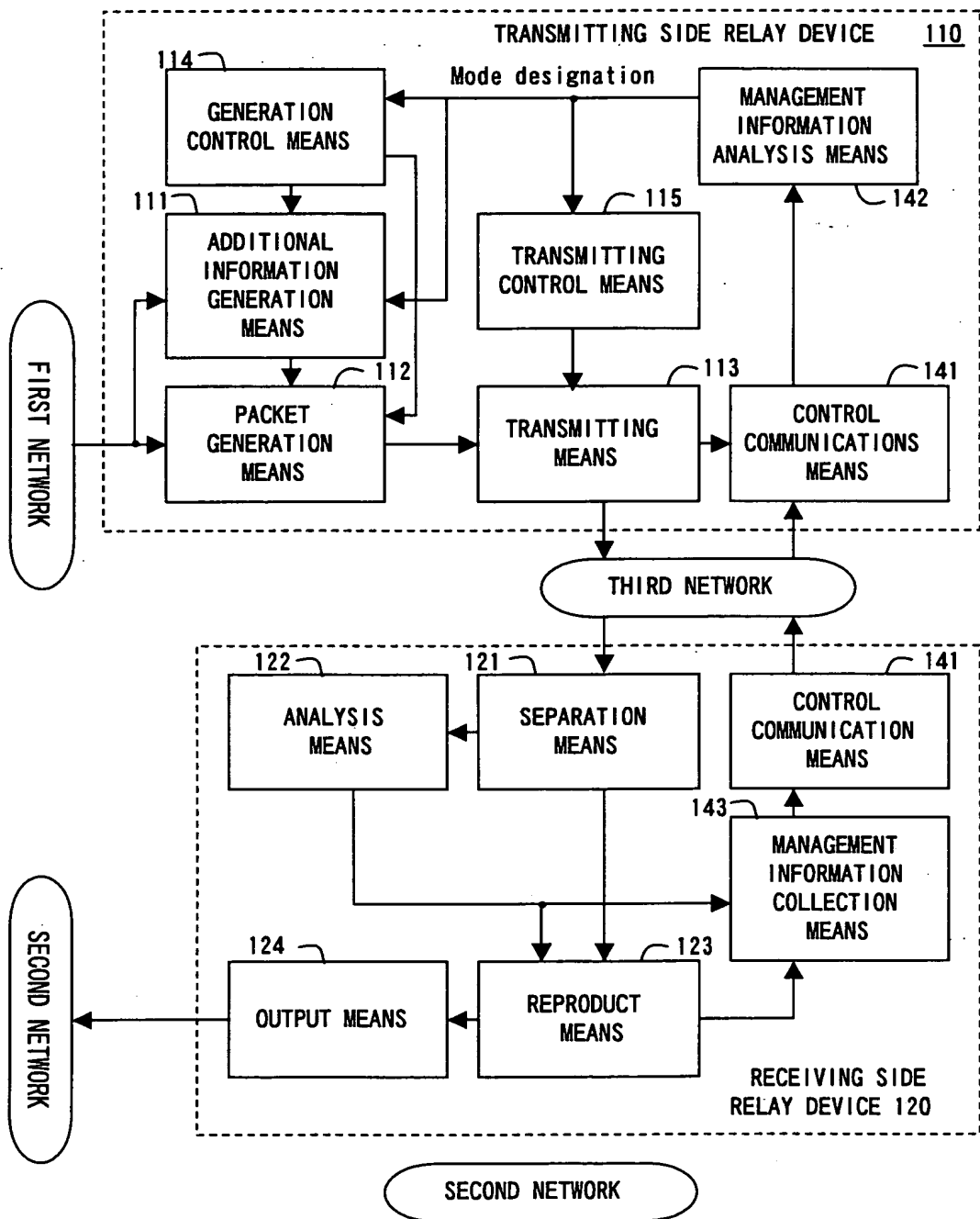


FIG. 10

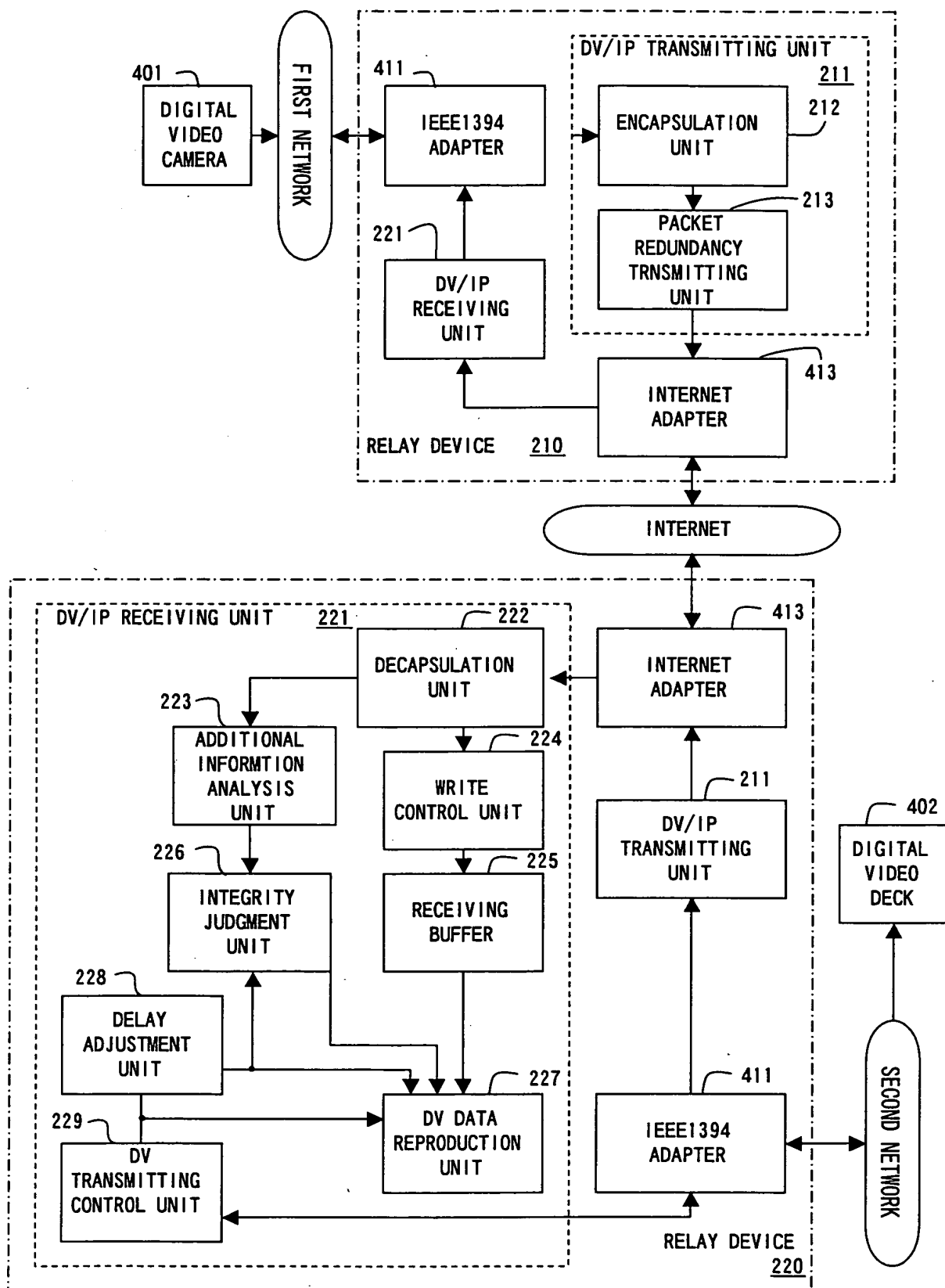


FIG. 11

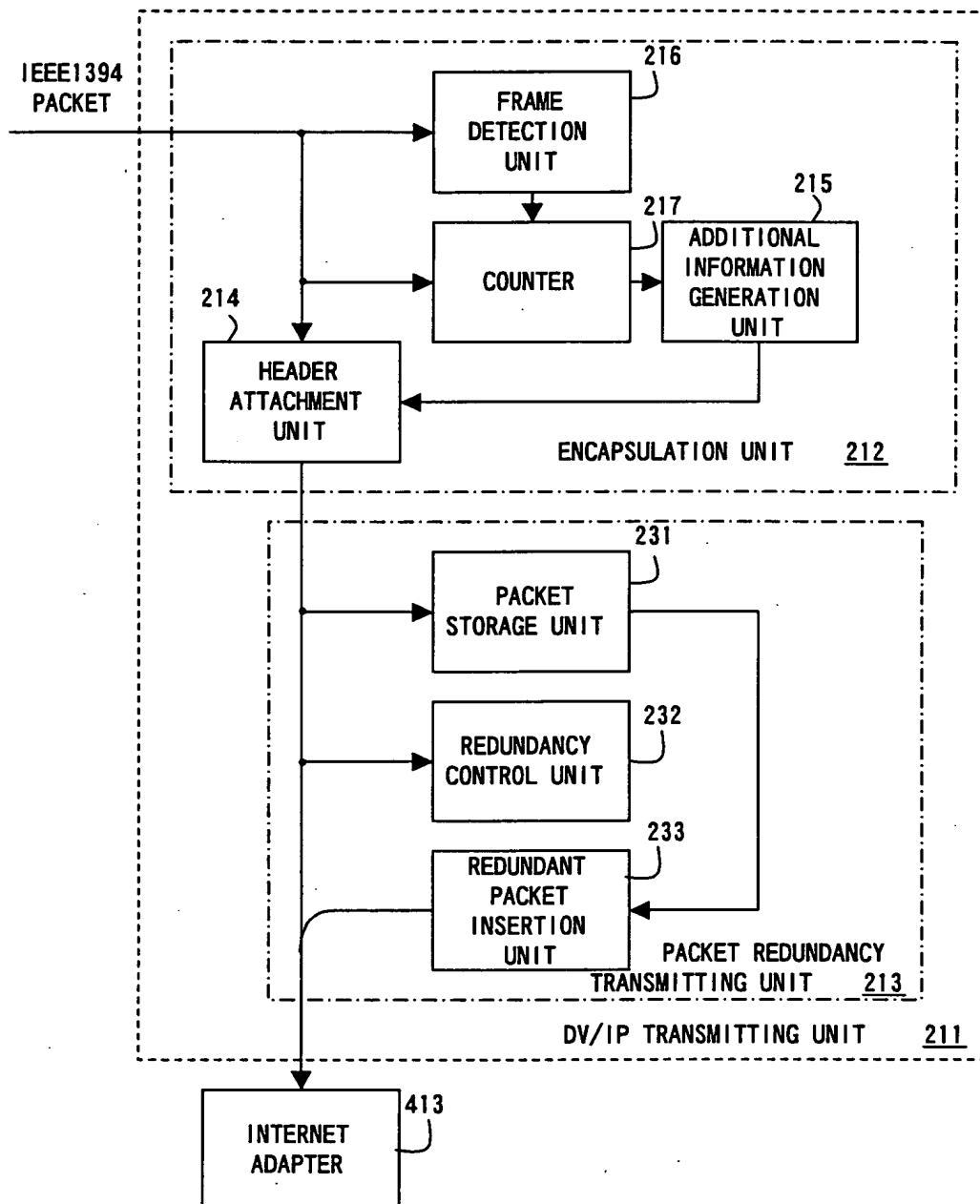
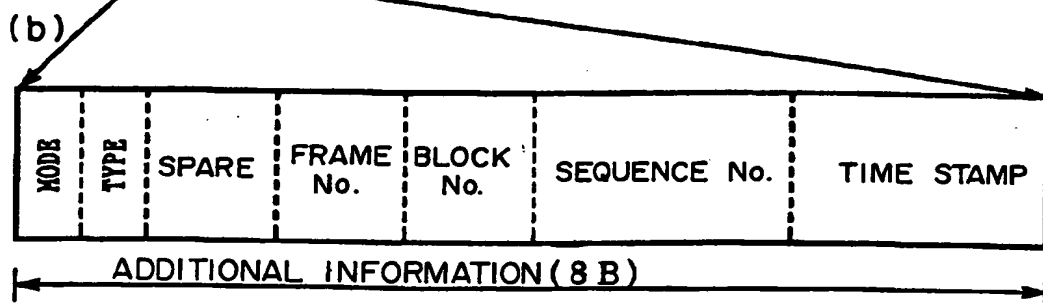
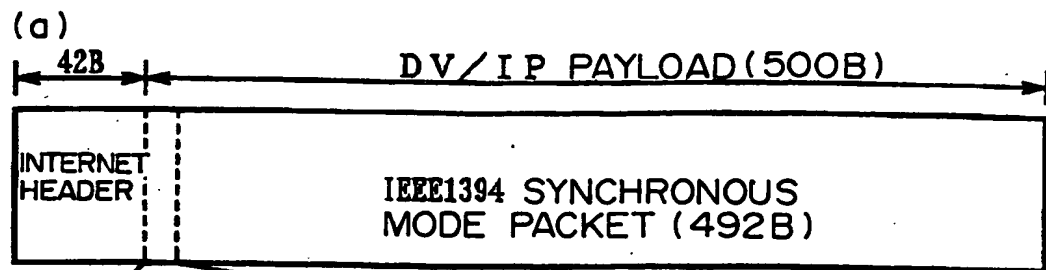


FIG. 12



(c)

DATA TYPE	TYPE OF PACKET
DT0	hhhhh
DT1	vvvvv
DT2	empty
DT3	av MIXTURE
DT4	avvvvv
DT5	vavvv
DT6	vvavv
DT7	vvvav
DT8	vvvvav
DT9	vvvvva
DT10	CONTROL PACKET

(d)

TRANSMITTING MODE	TRANSMITTING PROCESS CONTENT
mode0	TIME-LAPSE
mode1	ONLY VOICE
mode2	ONLY PICTURE
mode3	NORMAL

FIG. 13

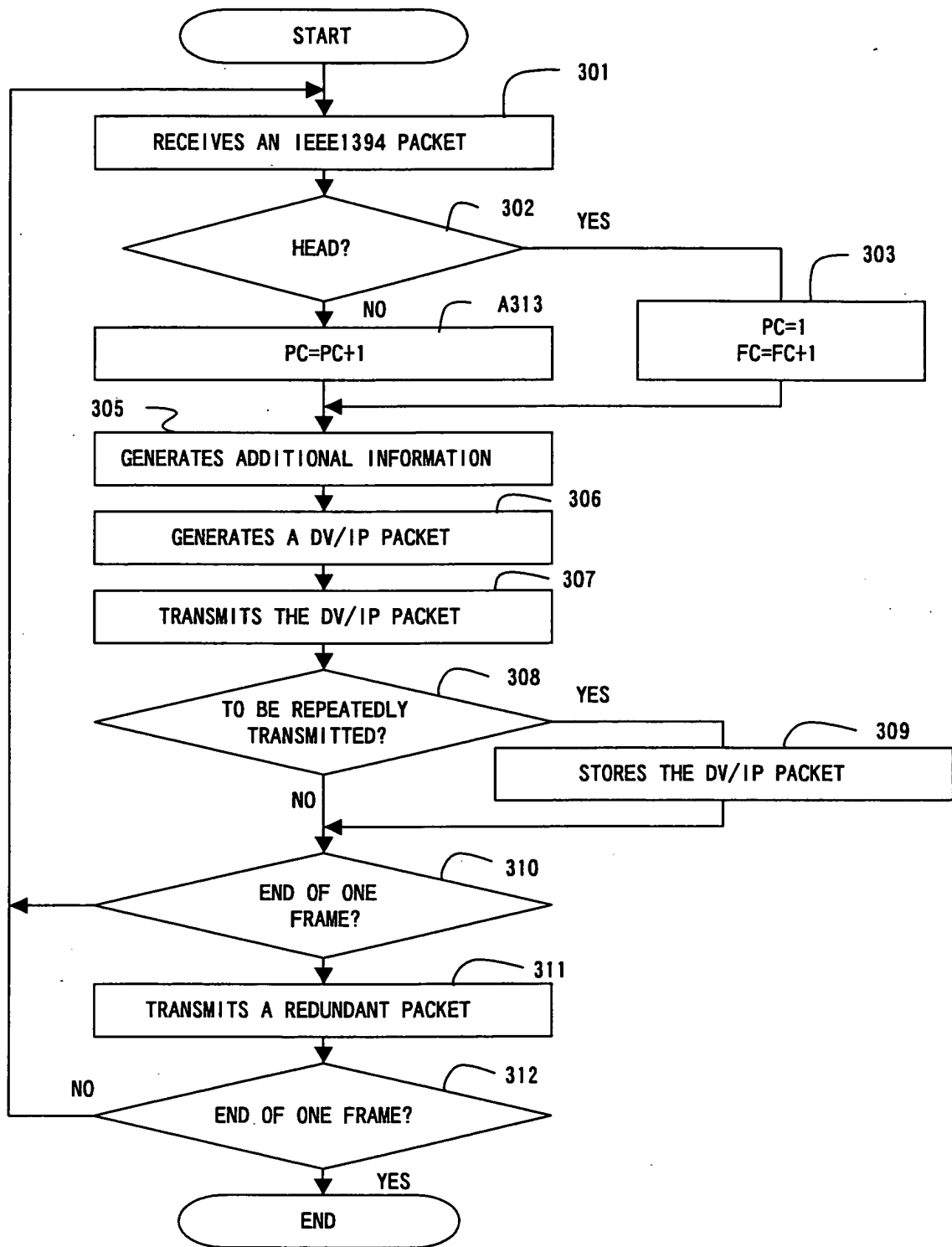


FIG. 14

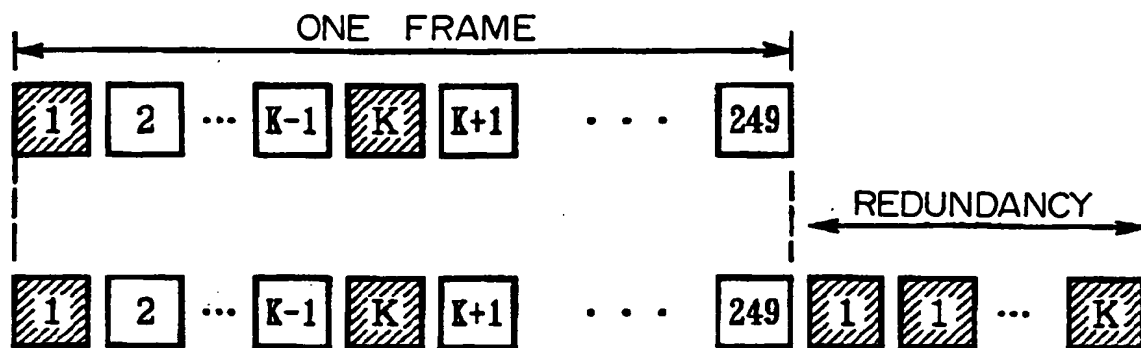


FIG. 15A

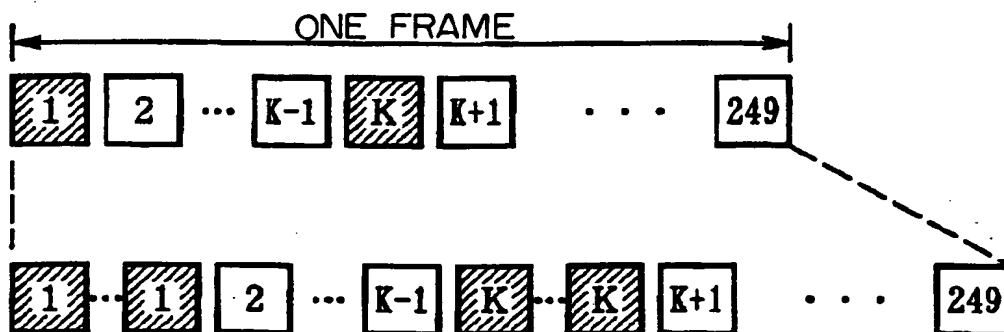


FIG. 15B

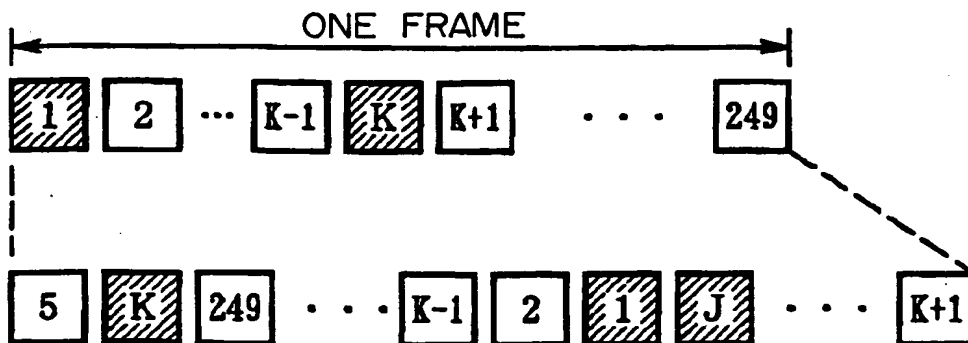


FIG. 15C

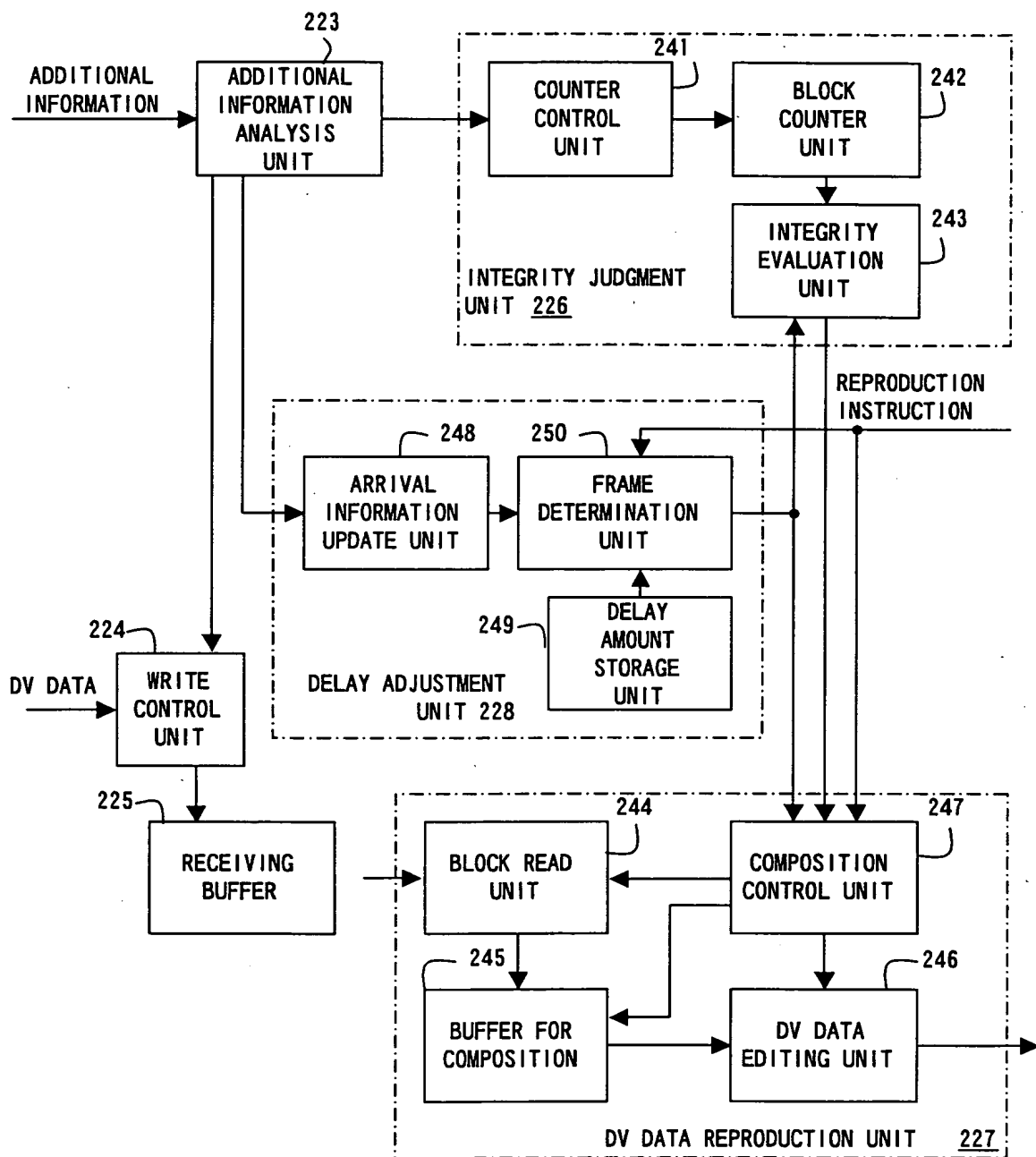


FIG. 16

BLOCK No.	FRAME(0)	FRAME(1)	...	FRAME(K)
0	DV _{0, 0}	DV _{1, 0}	...	DV _{K, 0}
1	DV _{0, 1}	DV _{1, 1}	...	DV _{K, 1}
2	DV _{0, 2}	DV _{1, 2}	...	DV _{K, 2}
⋮	⋮	⋮	⋮	⋮
249	DV _{0, 249}	DV _{1, 249}	...	DV _{K, 249}

FIG. 17A

	FRAME(0)	FRAME(1)	...	FRAME(K)
RECEIVING BLOCK	RBC0	RBC1	...	RBCK
FRAME HEADER	FHC0	FHC1	...	FHCK
AUDIO BLOCK	ABC0	ABC1	...	ABCK
VIDEO BLOCK	VBC0	VBC1	...	VBCK

FIG. 17B

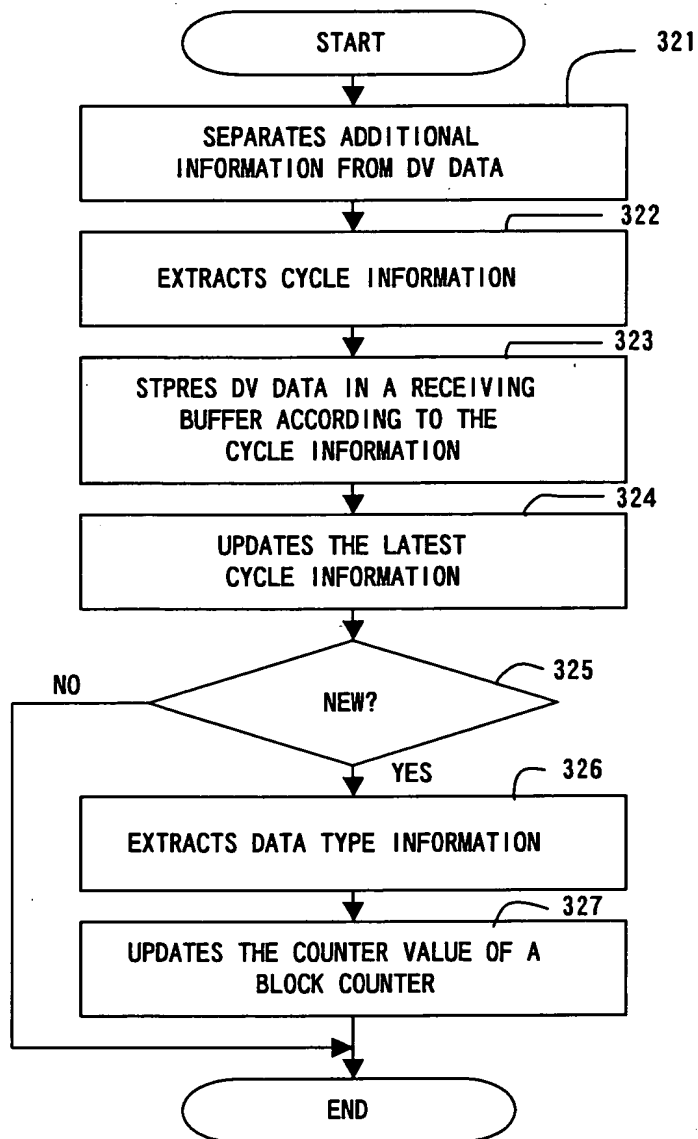


FIG. 18A

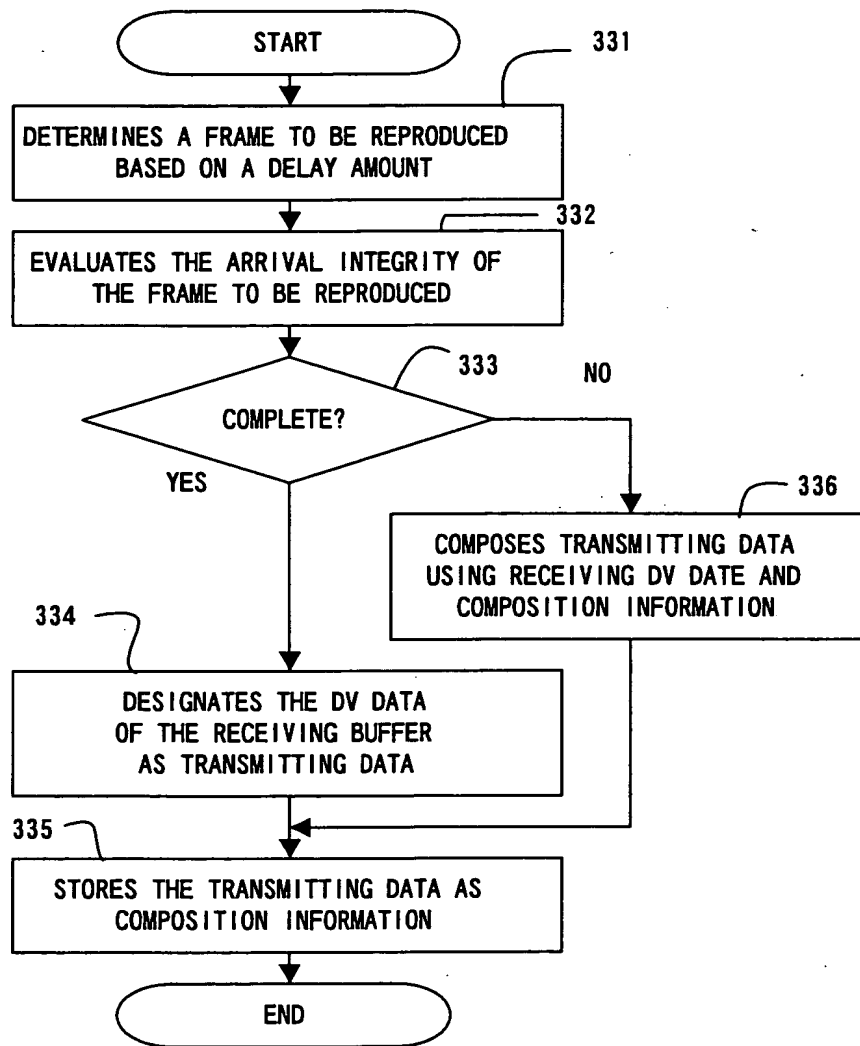


FIG. 18B

FIRST BUFFER	SECOND BUFFER	PACKET No.	TRANSMITTING DATA
$DV_{(n-1, 0)}$	$DV_{(n, 0)}$	0	$DV_{(n, 0)}$
$DV_{(n-1, 1)}$	$DV_{(n, 1)}$	1	$DV_{(n, 1)}$
$DV_{(n-1, 2)}$	LOST	2	$DV_{(n-1, 2)}$
\vdots	\vdots	\vdots	\vdots
$DV_{(n-1, 249)}$	$DV_{(n, 249)}$	249	$DV_{(n, 249)}$

FIG. 19A

PACKET No.	FIRST BUFFER	SECOND BUFFER
0	FH_{n-1}	FH_n
1	$a_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$	$a_n v_n v_n v_n v_n v_n$
2	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$	LOST
3	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} a_{n-1} v_{n-1}$	$v_n v_n v_n v_n a_n v_n$
\vdots	\vdots	\vdots
249	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$	LOST

FIG. 19B

PACKET No.	TRANSMITTING DATA
0	FH_{n-1}
1	$a_n v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$
2	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$
3	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} a_n v_{n-1}$
\vdots	\vdots
249	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$

FIG. 19C

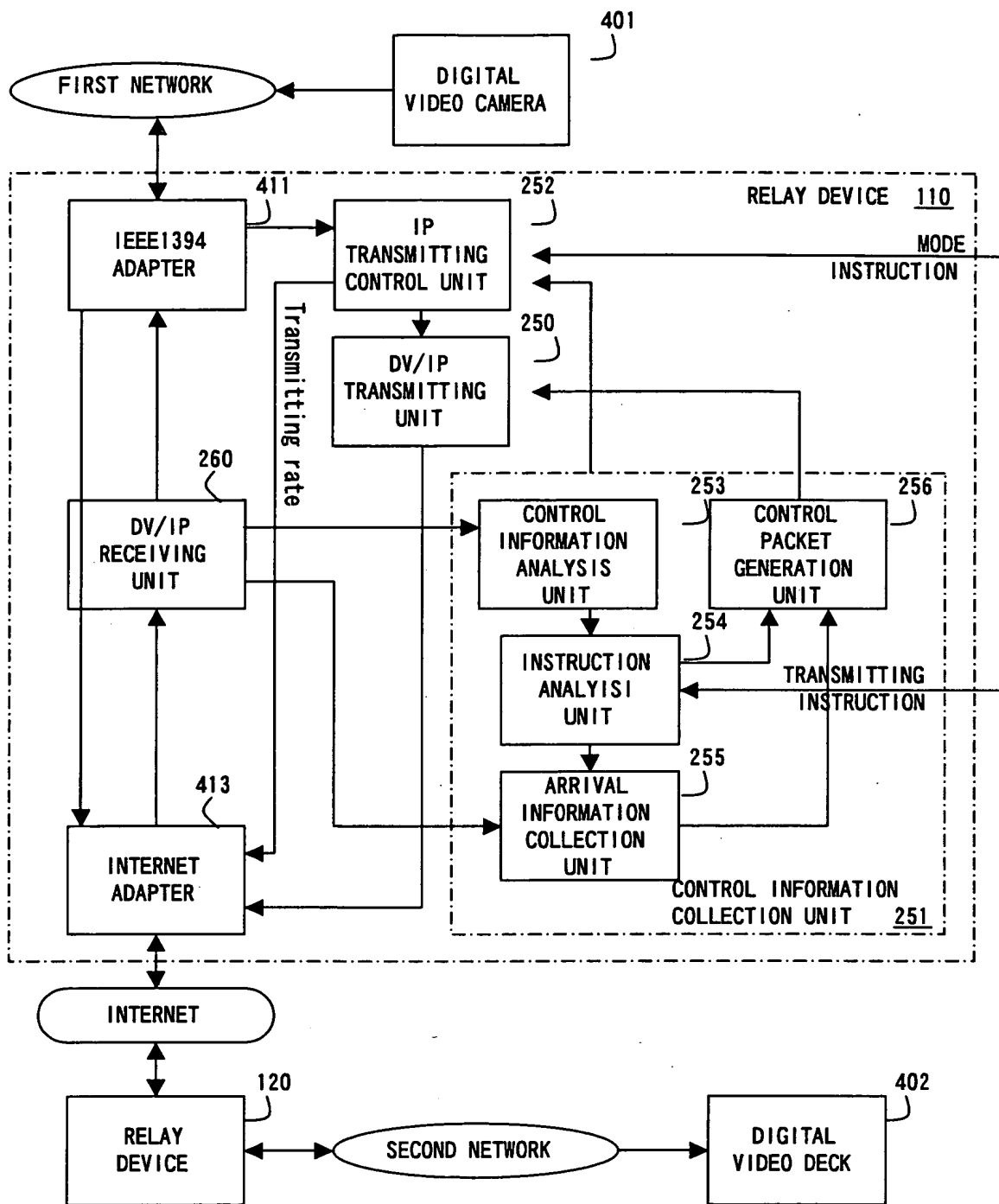


FIG. 20

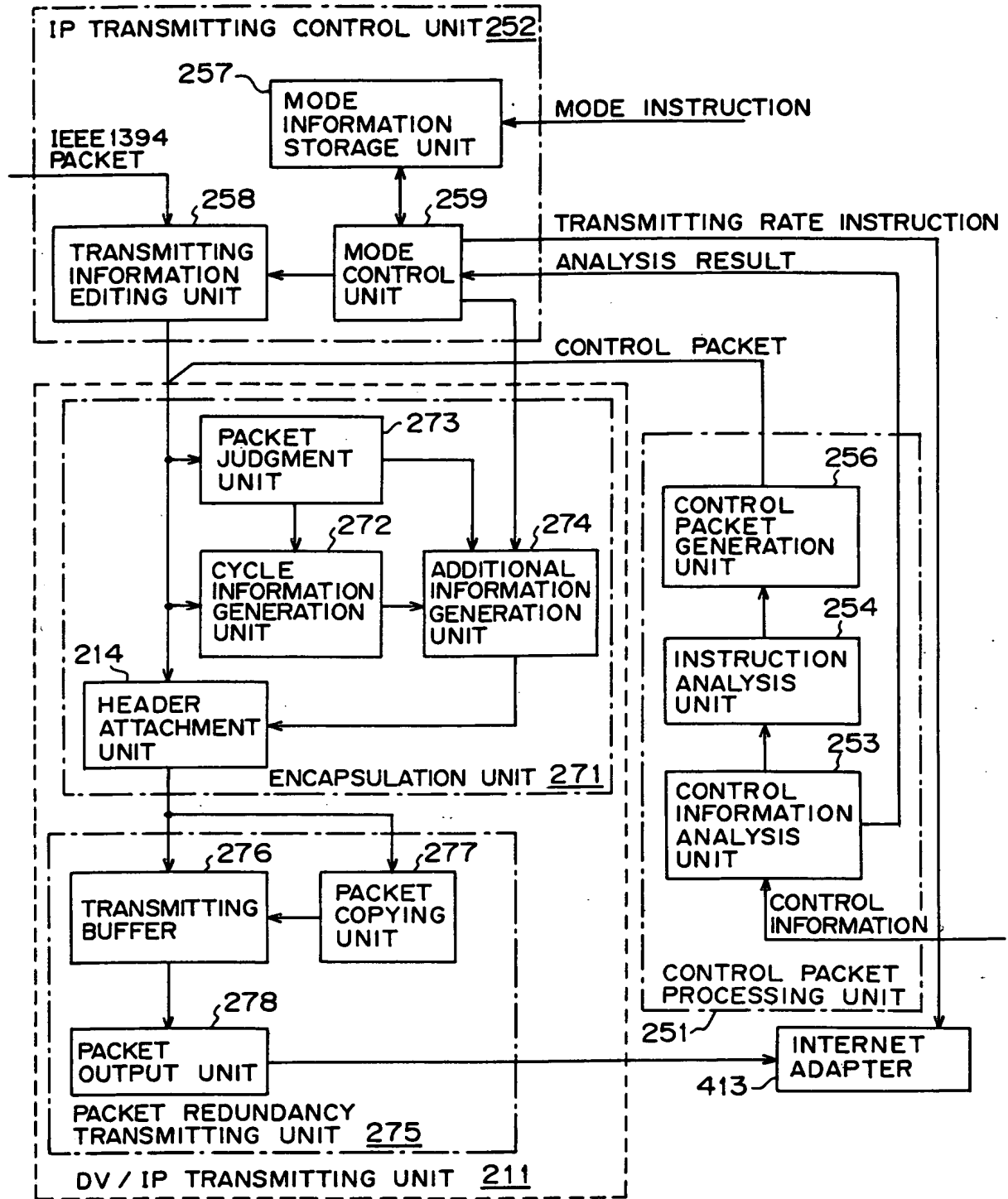


FIG. 21

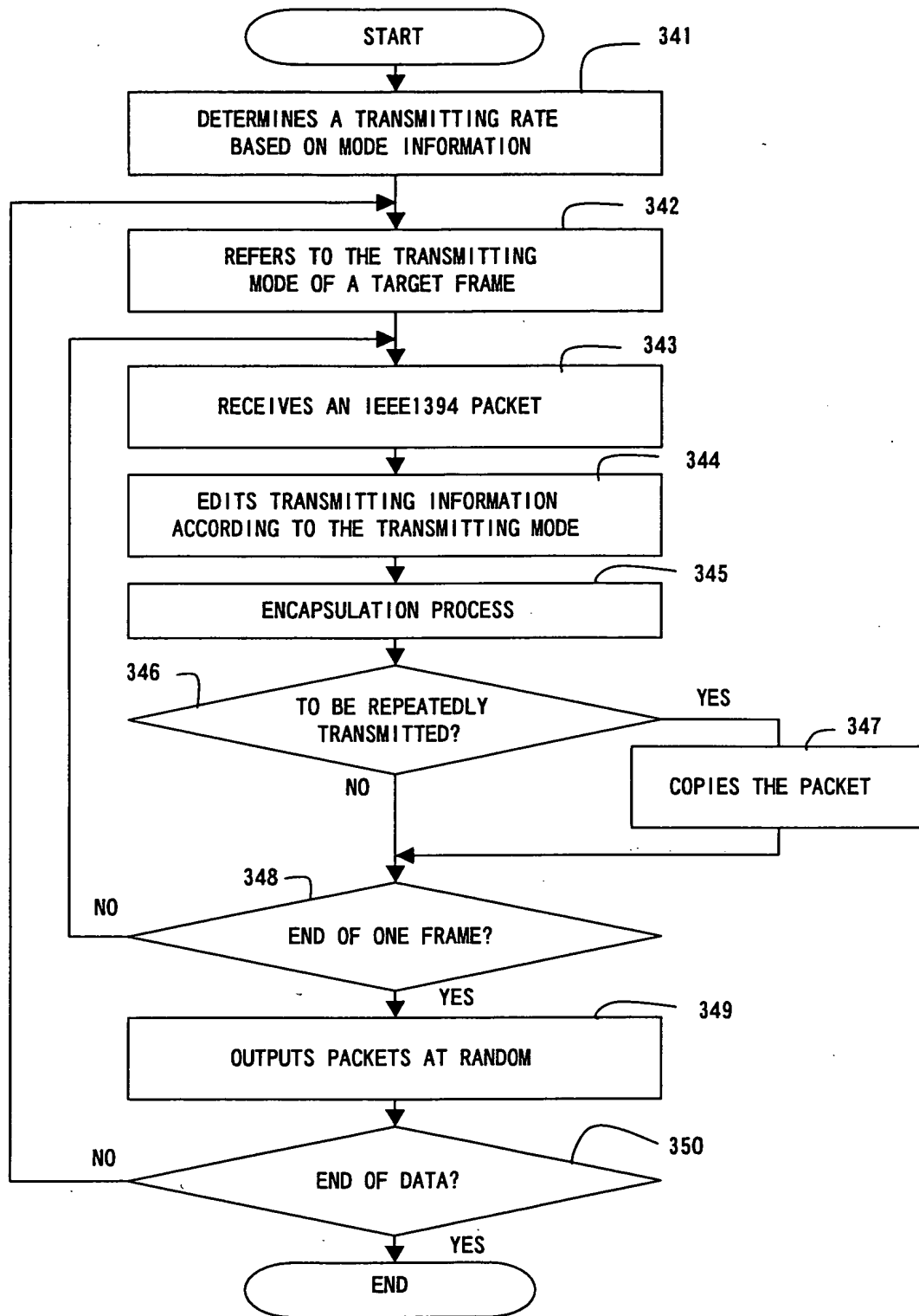


FIG. 22

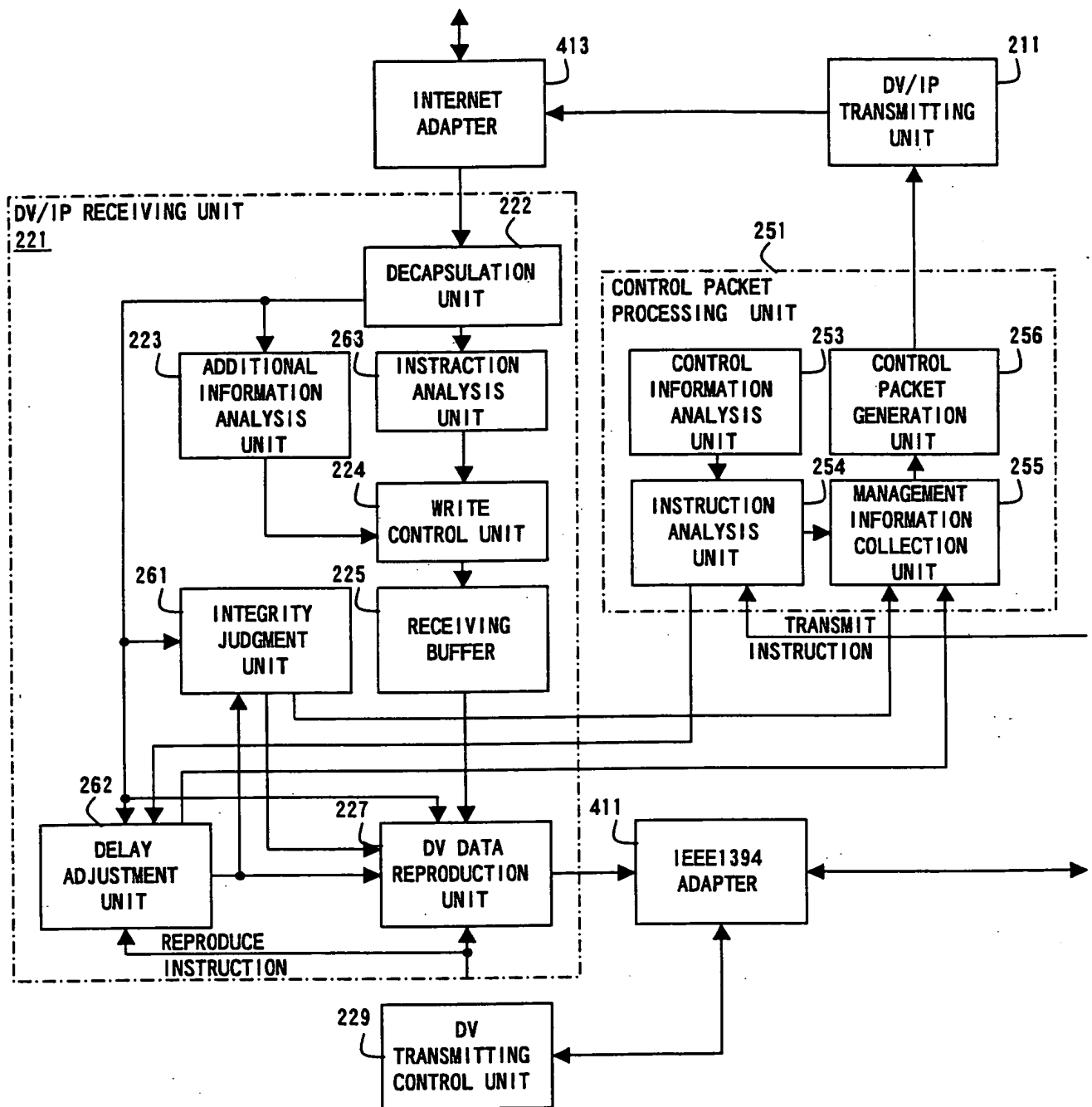


FIG. 23

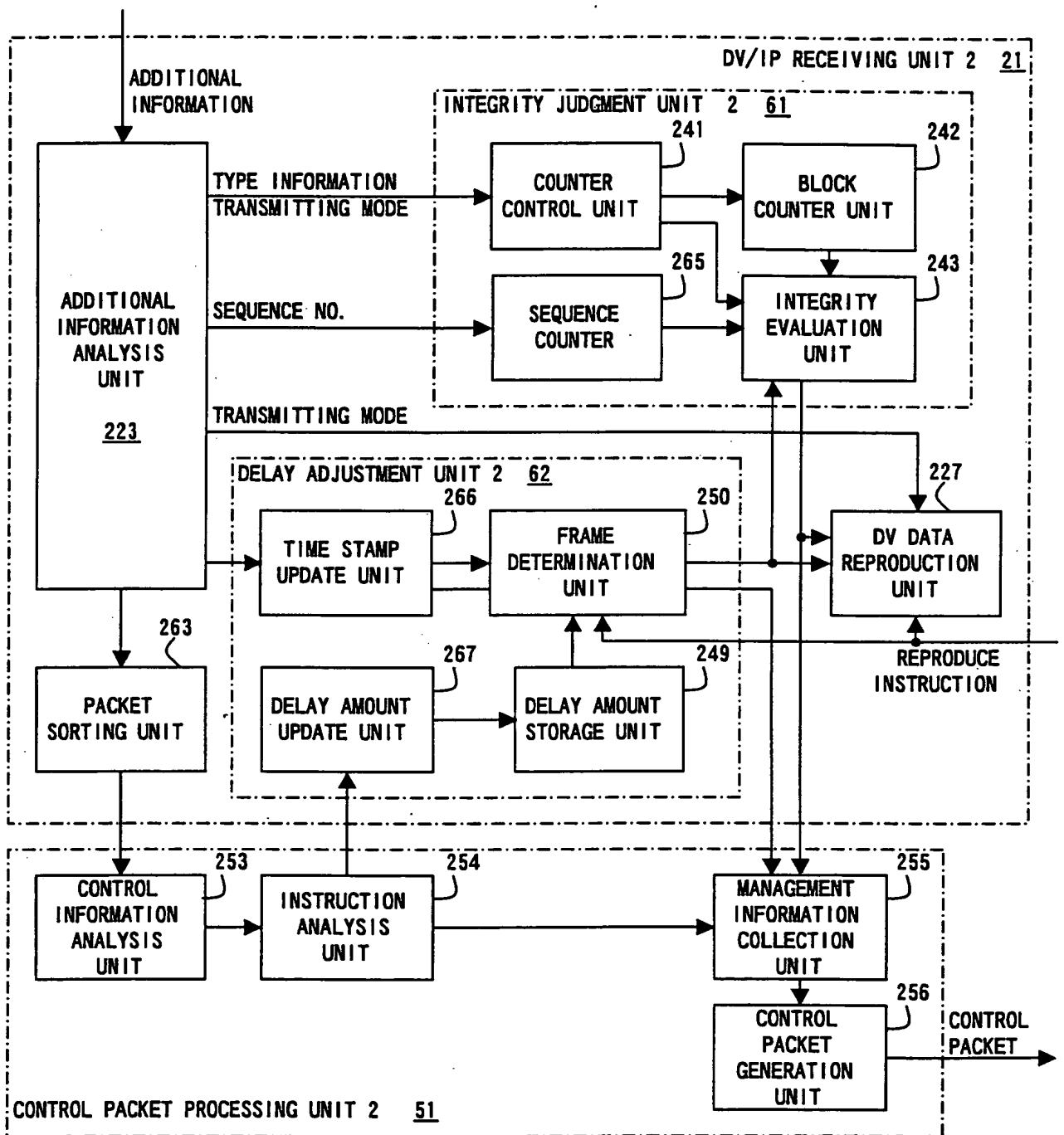


FIG. 24

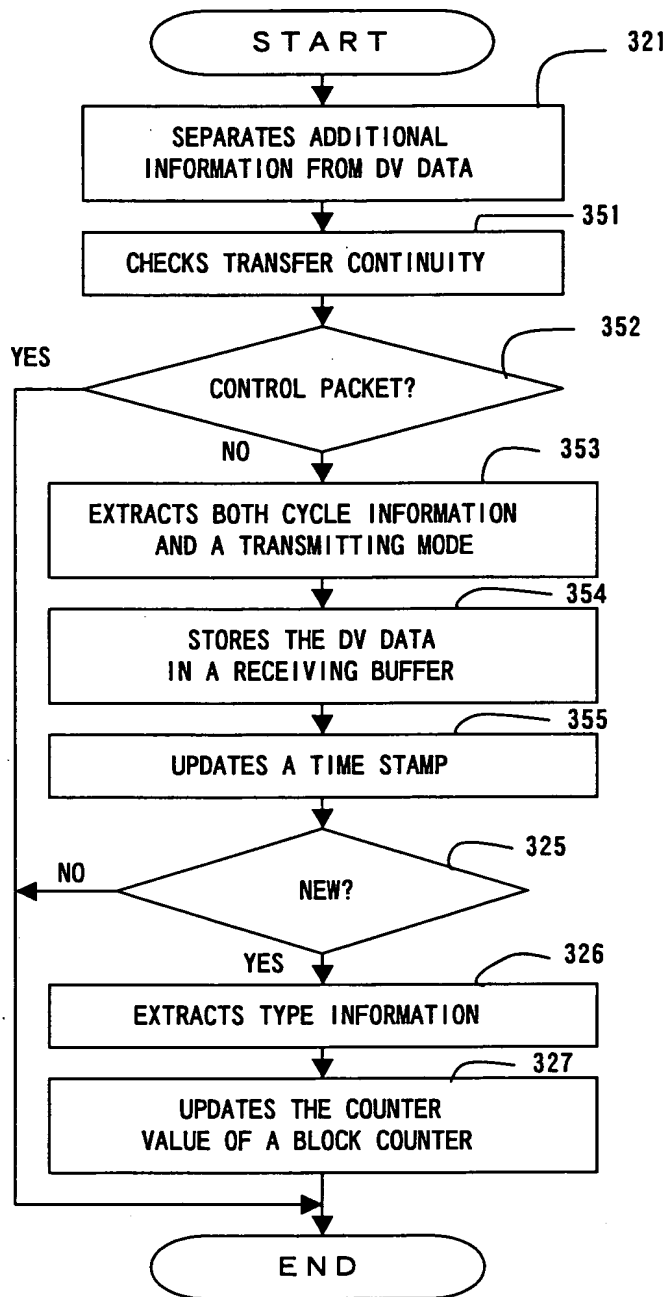


FIG. 25A

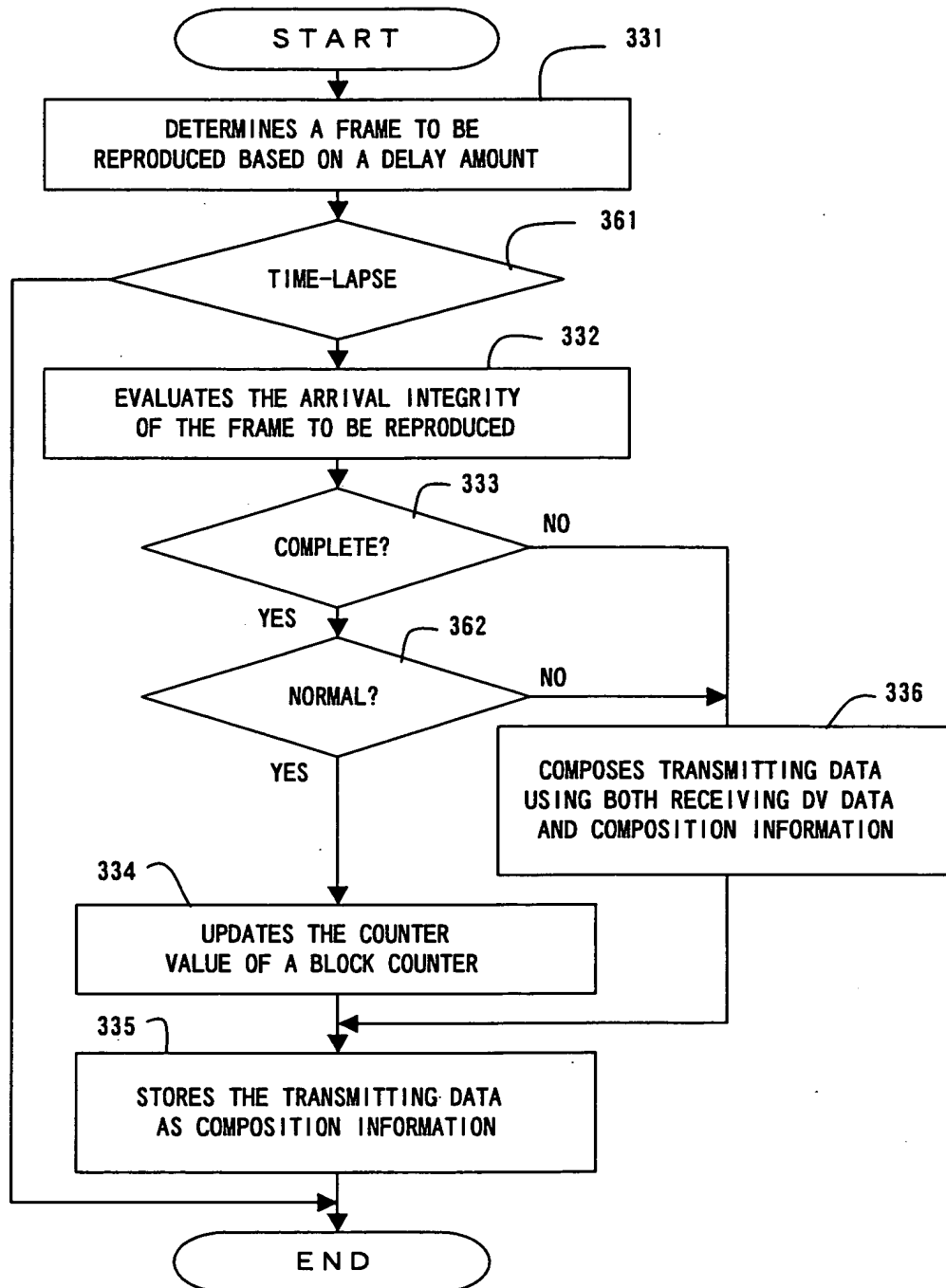


FIG. 25B

PACKET No.	ONLY VOICE	ONLY PICTURE
0	FH	FH
1	a v v v v v	- v v v v v
2	- - - - -	v v v v v v
3	v v v v a v	v v v v - v
⋮	⋮	⋮
2 4 9	- - - - -	v v v v v v

FIG. 26A

PACKET No.	FIRST BUFFER	SECOND BUFFER
0	FH_{n-1}	FH_n
1	$a_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$	$a_n - - - -$
2	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$	$- - - - -$
3	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} a_{n-1} v_{n-1}$	$- - - - a_n -$
⋮	⋮	⋮
2 4 9	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$	$- - - - -$

FIG. 26B

PACKET No.	TRANSMITTING DATA
0	FH_{n-1}
1	$a_n v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$
2	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$
3	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} a_n v_{n-1}$
⋮	⋮
2 4 9	$v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1} v_{n-1}$

FIG. 26C

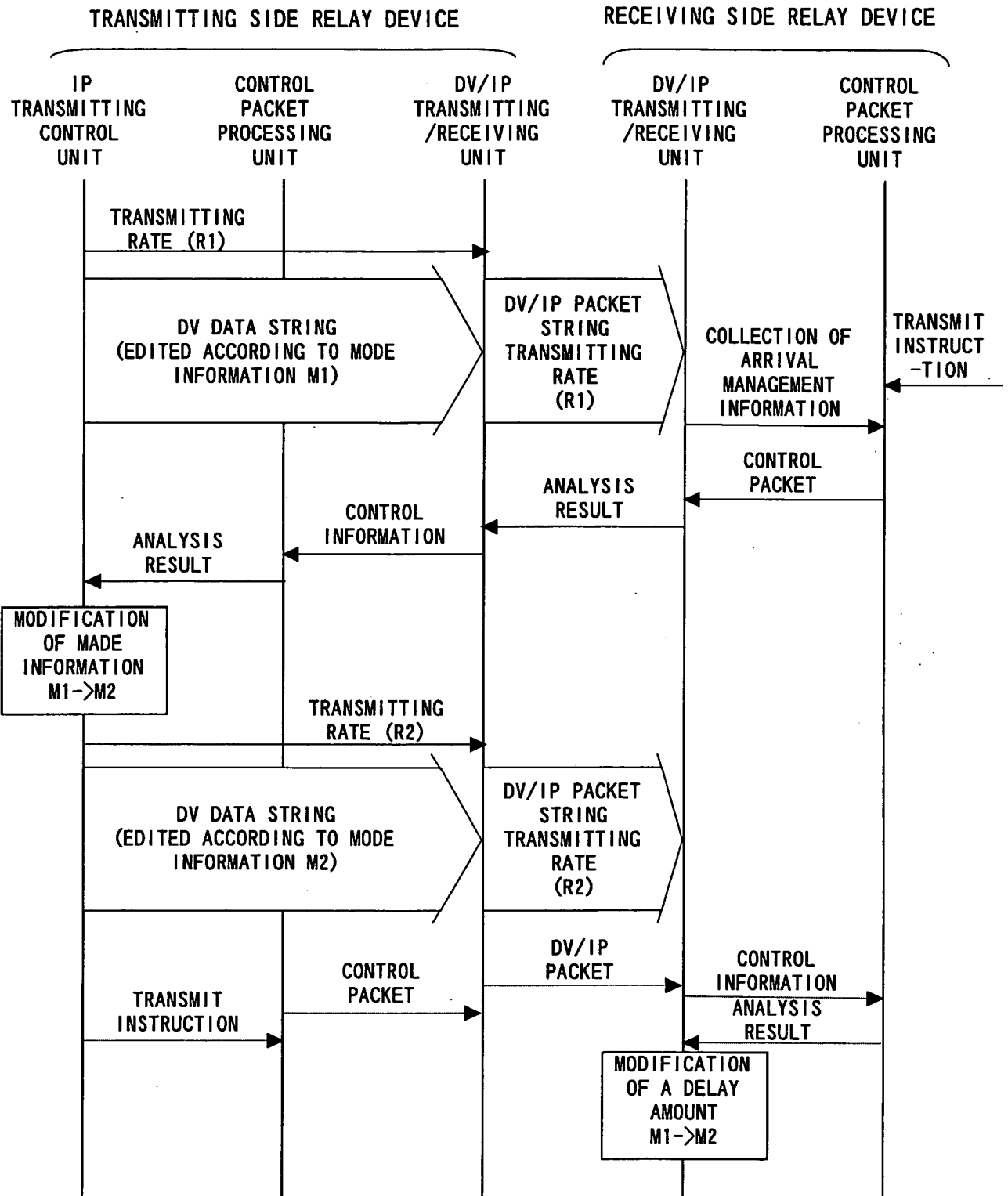


FIG. 27

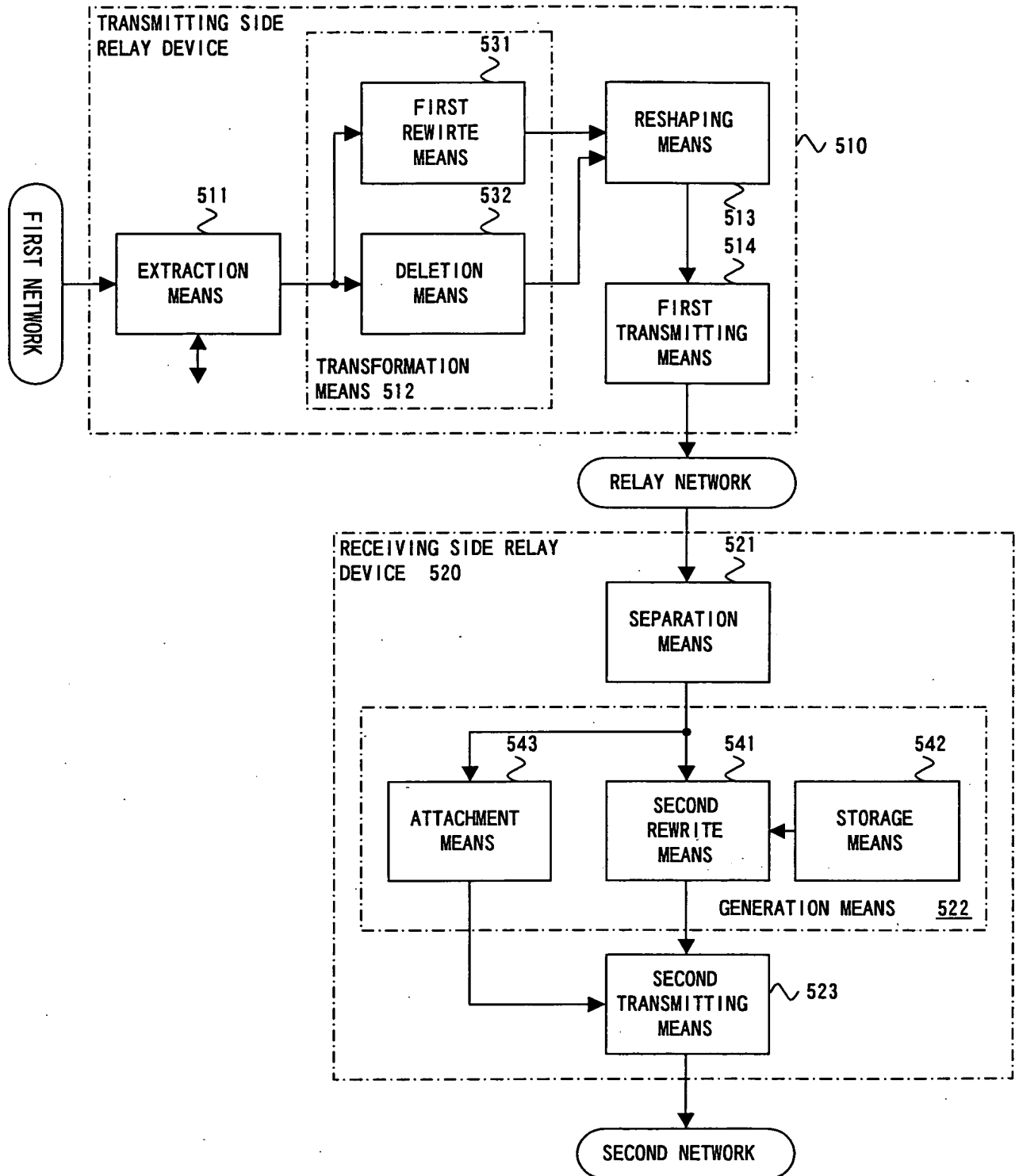


FIG. 28

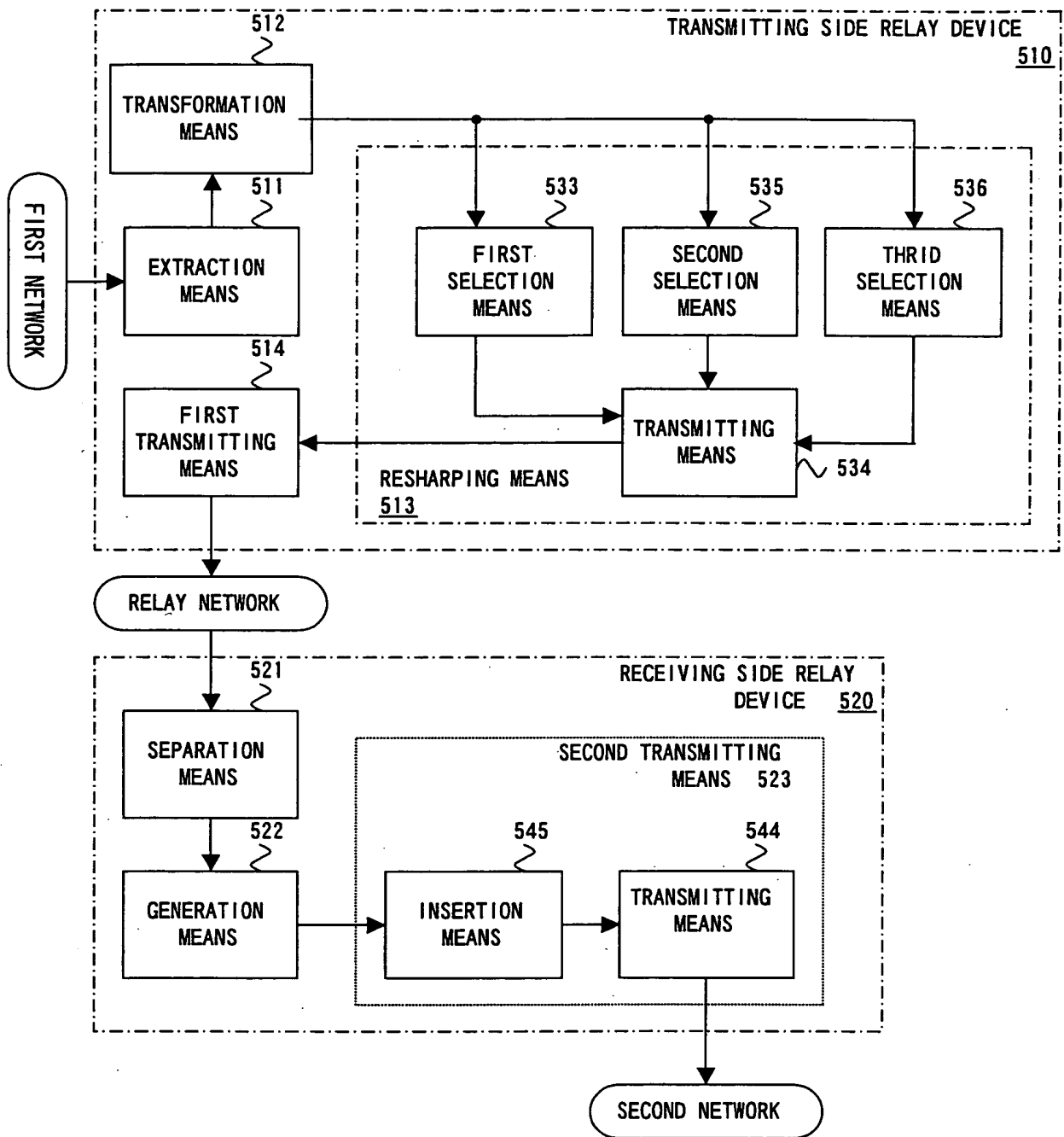


FIG. 29

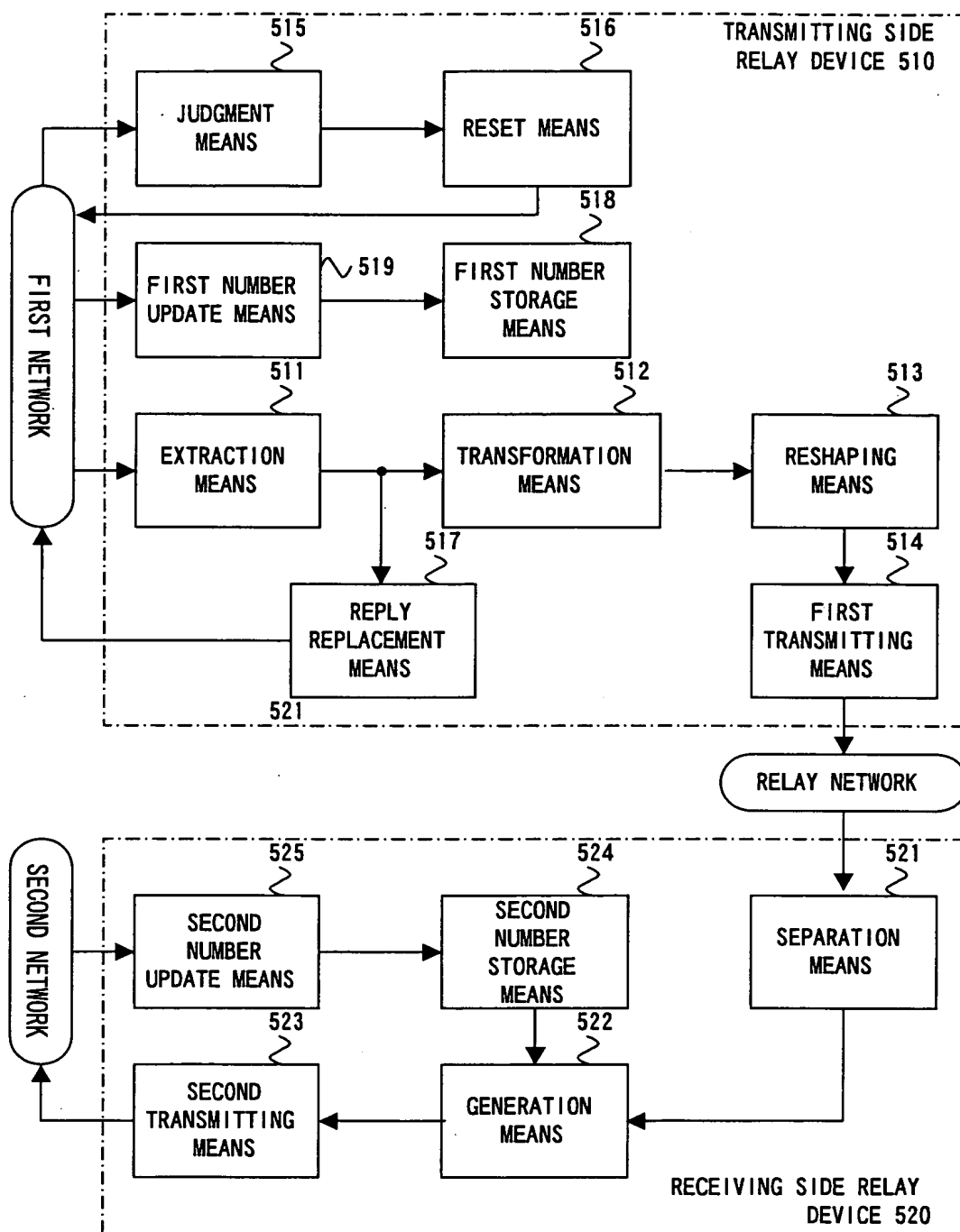


FIG. 30

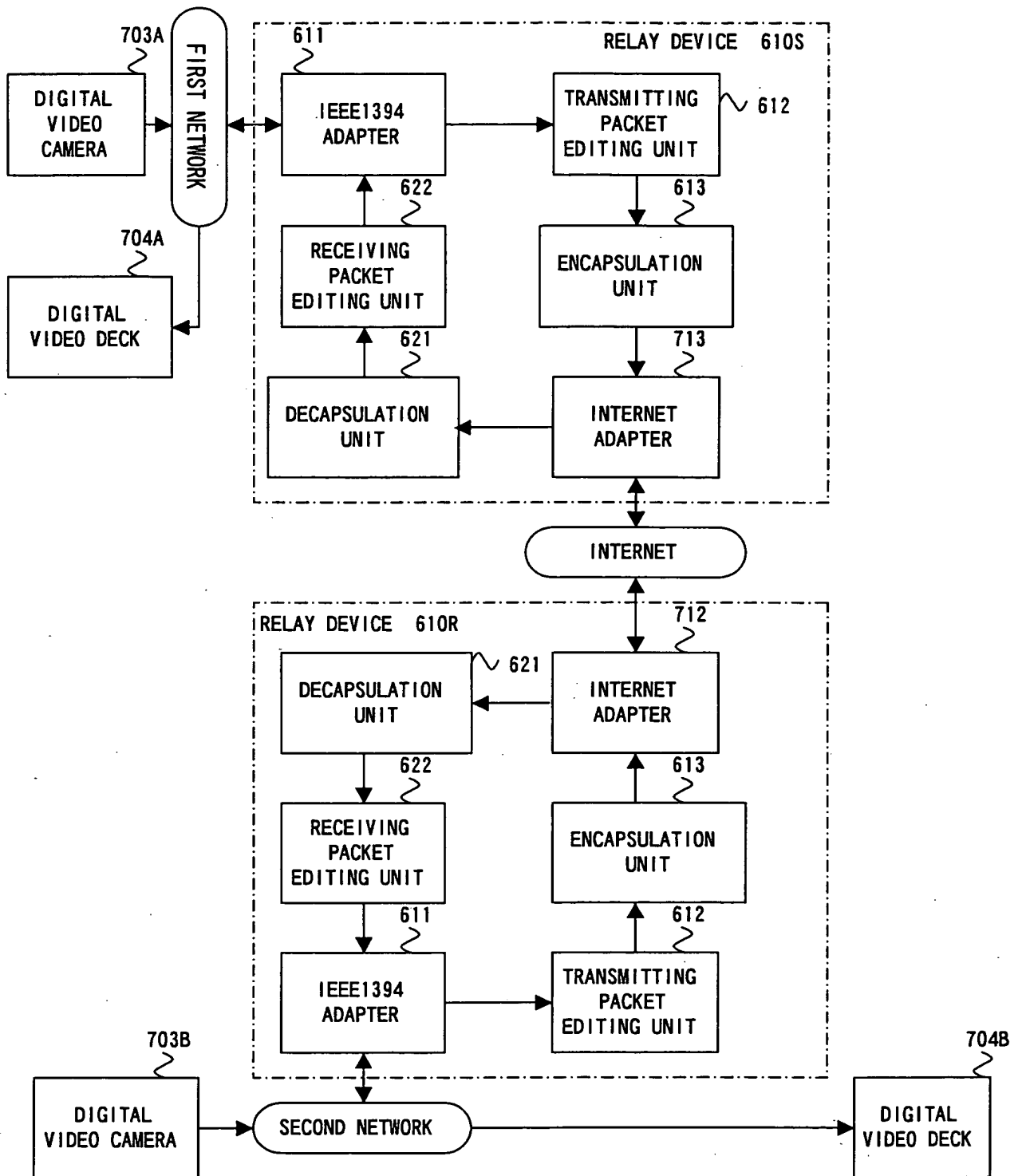


FIG. 31

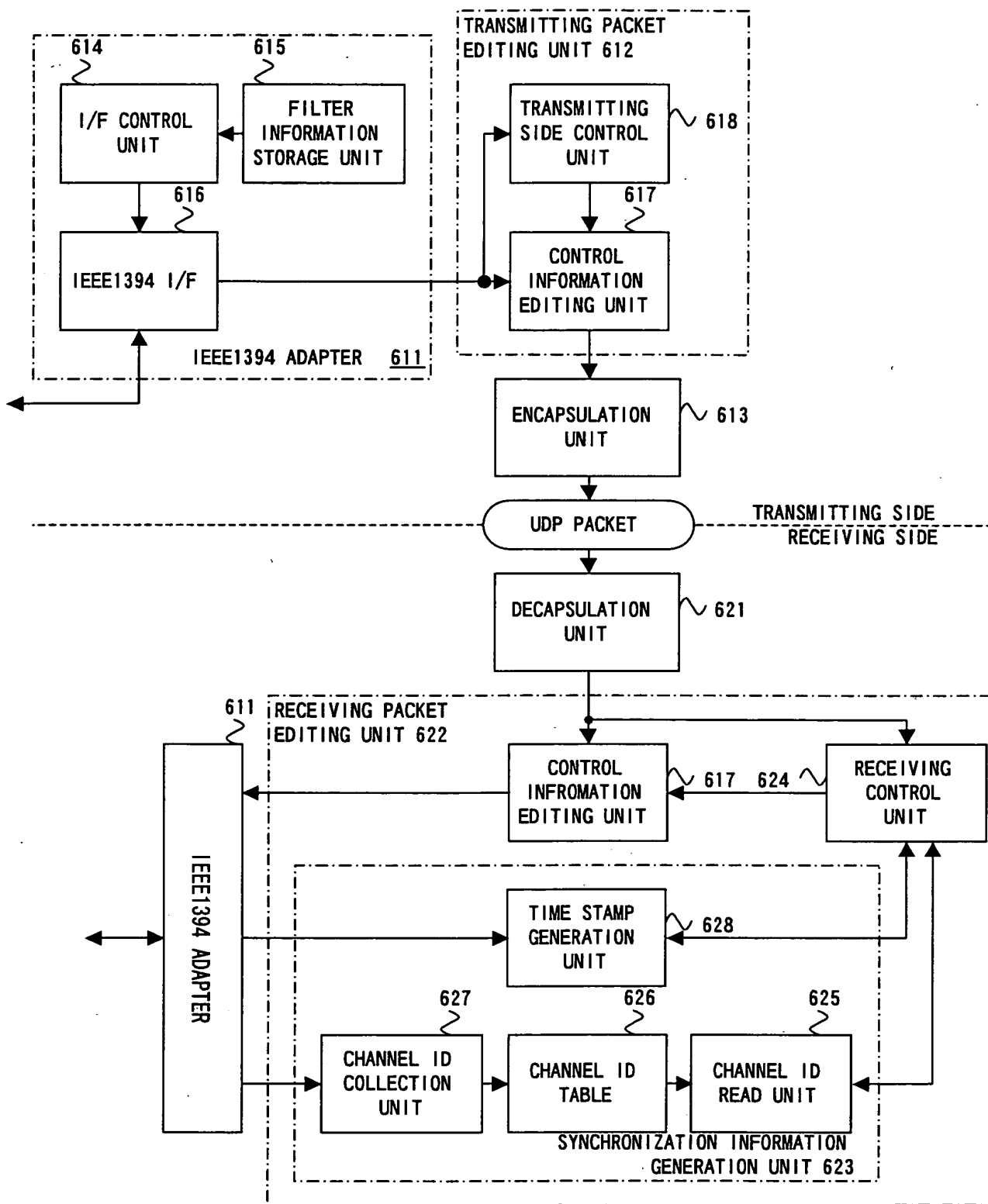


FIG. 32

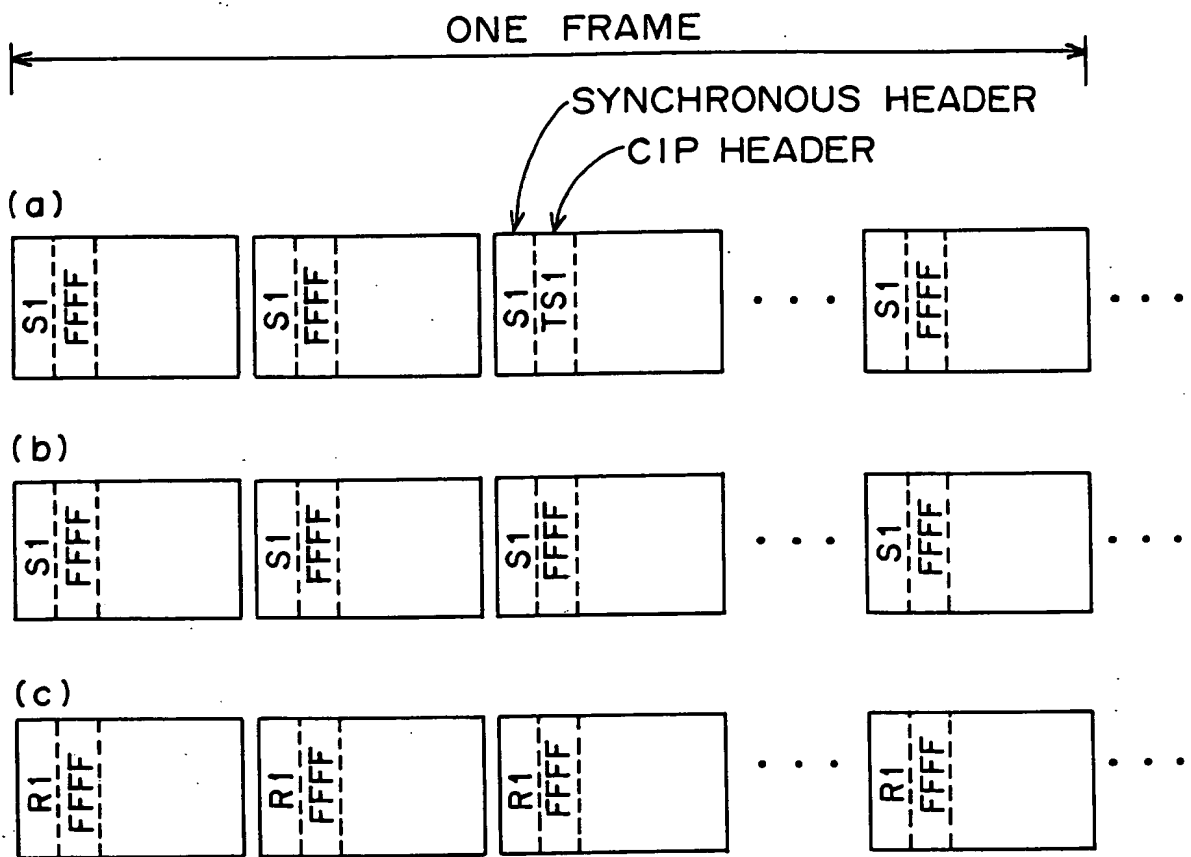


FIG. 33

TRANSMITTING SIDE CHANNEL ID	RECEIVING SIDE CHANNEL ID
S 1	R 1
⋮	⋮

FIG. 34A

TRANSMITTING SIDE CHANNEL ID	NETWORK ADDRESS	RECEIVING SIDE CHANNEL ID
S 1	N 1	R 1
S 1	N 2	R 2
S 2	N 1	R 3
⋮	⋮	⋮

FIG. 34B

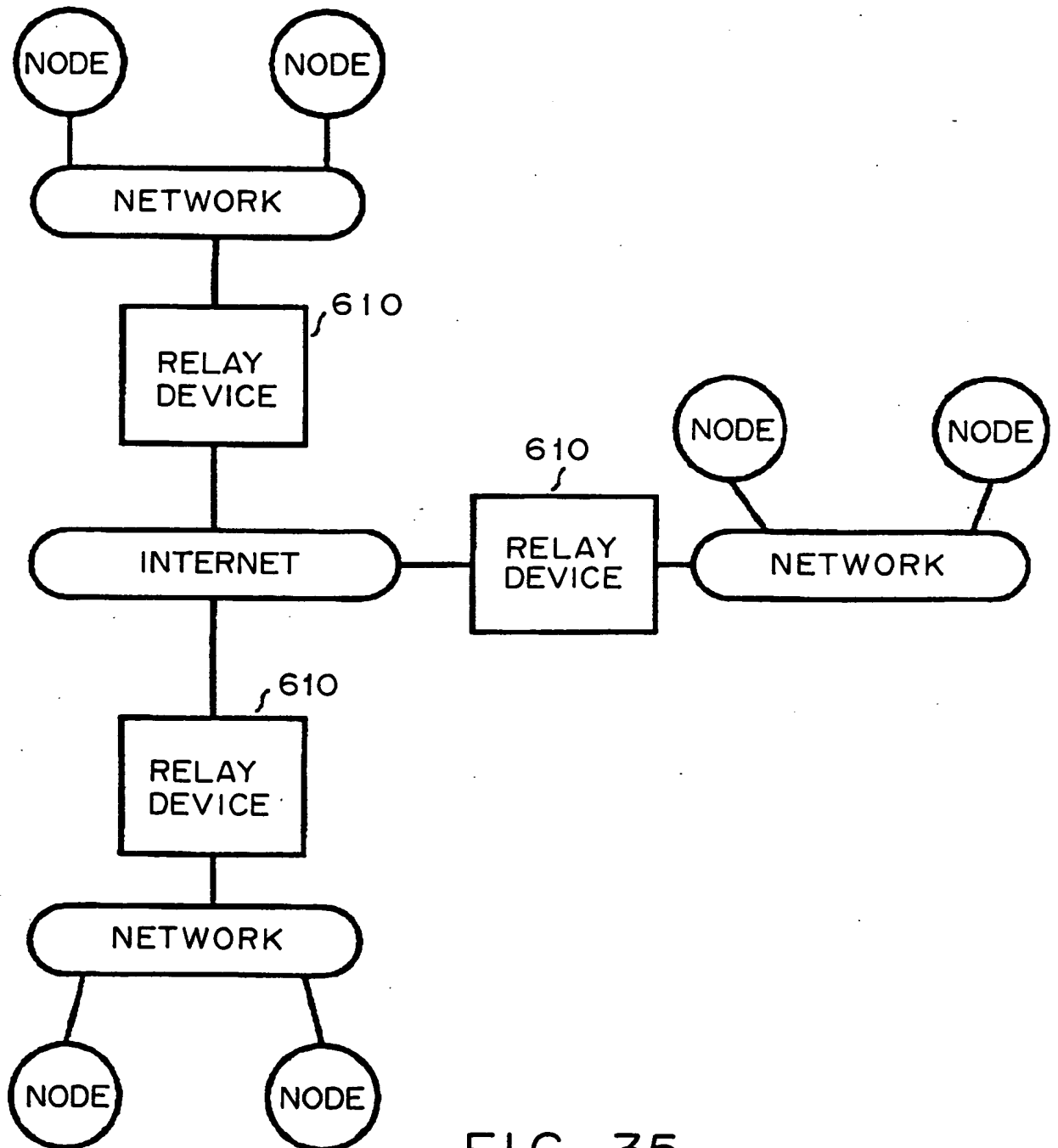


FIG. 35

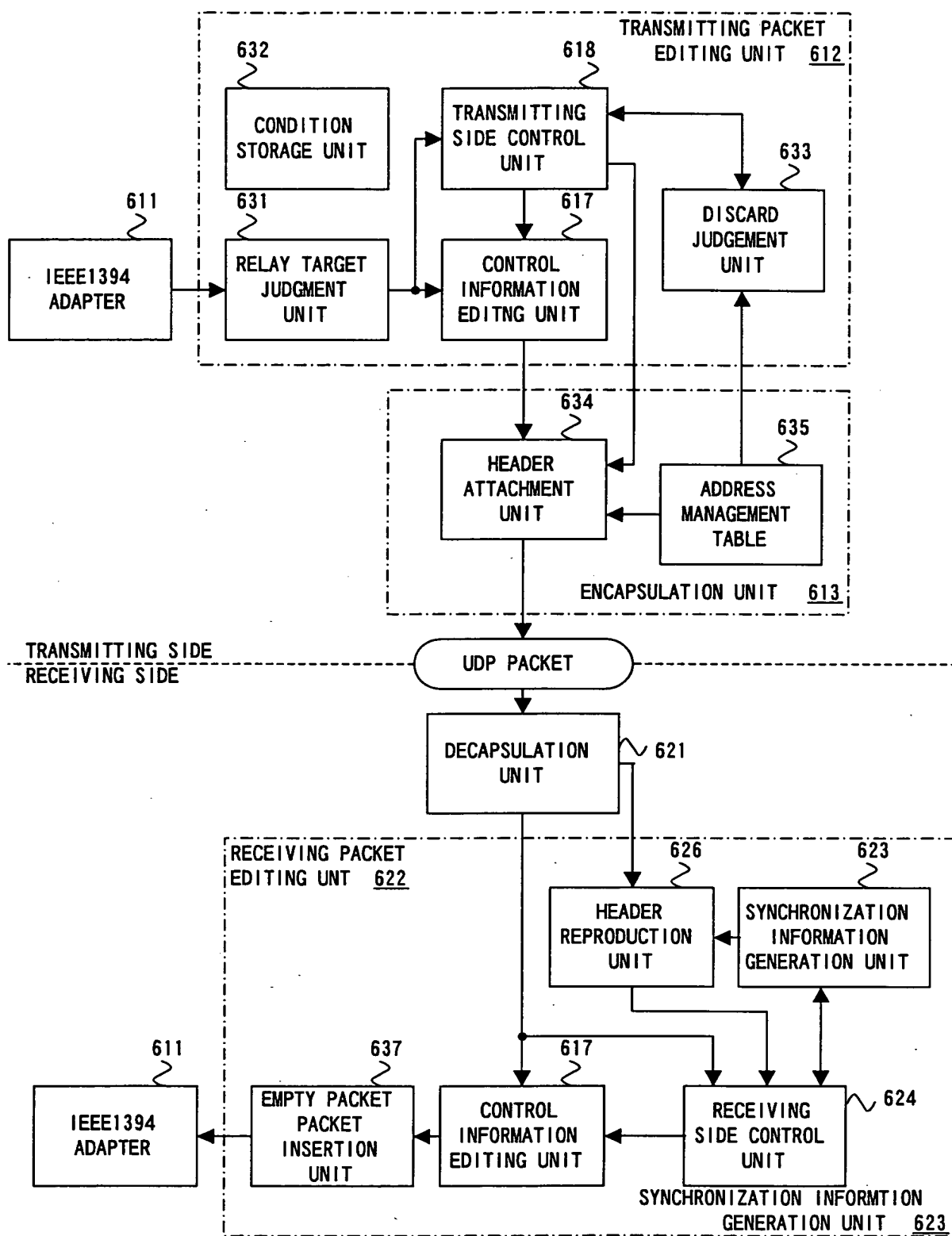


FIG. 36

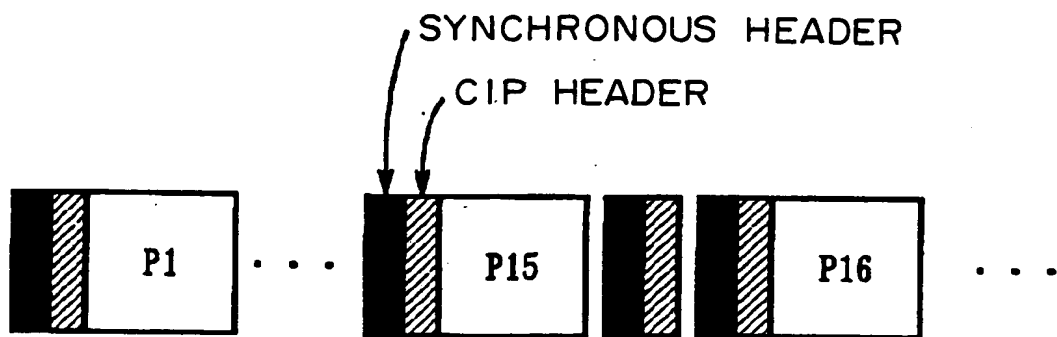


FIG. 37A

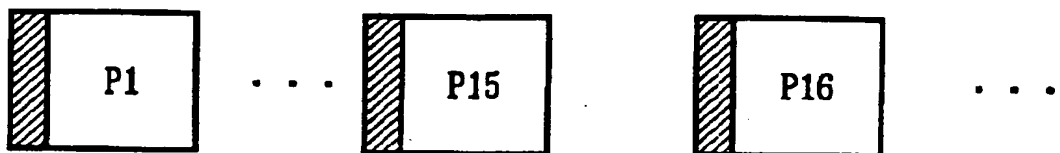


FIG. 37B

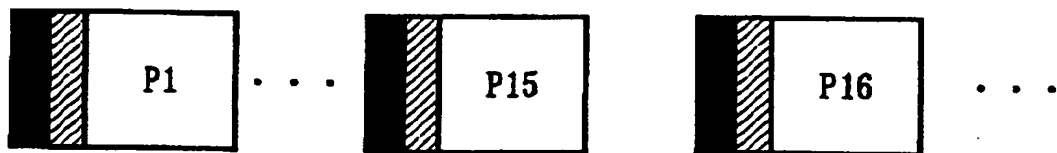


FIG. 37C

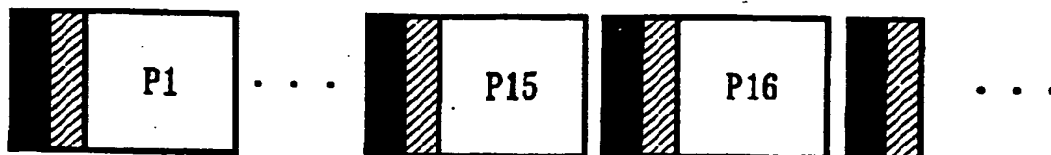


FIG. 37D

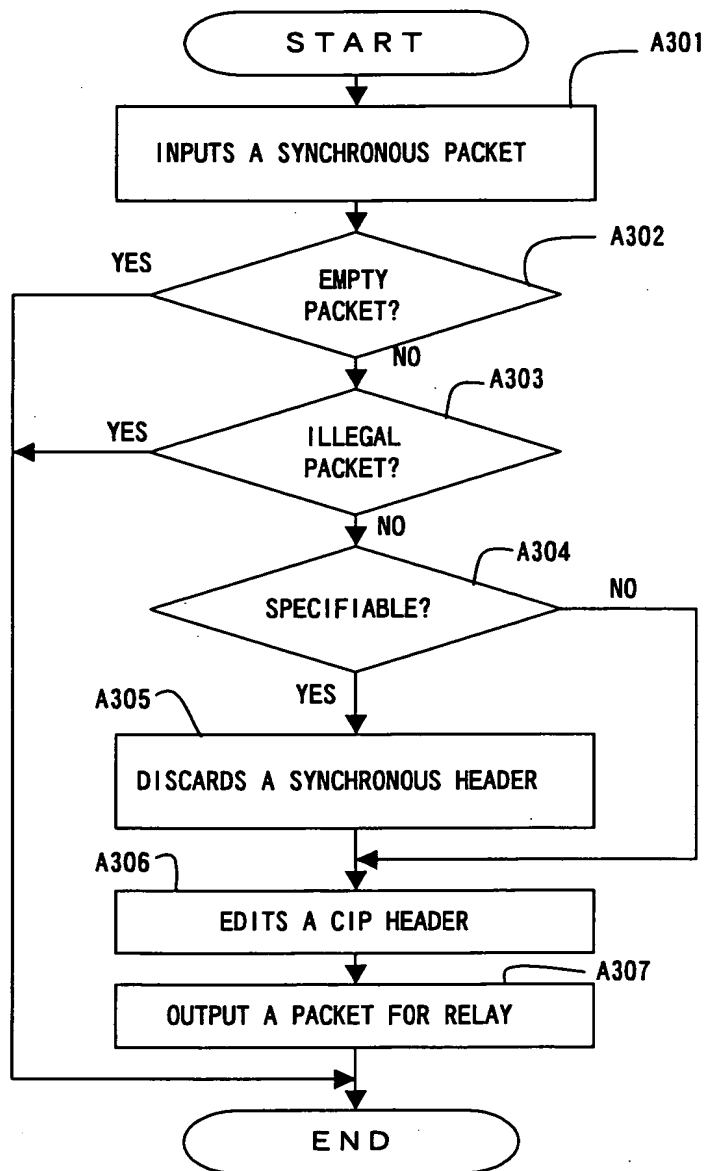


FIG. 38

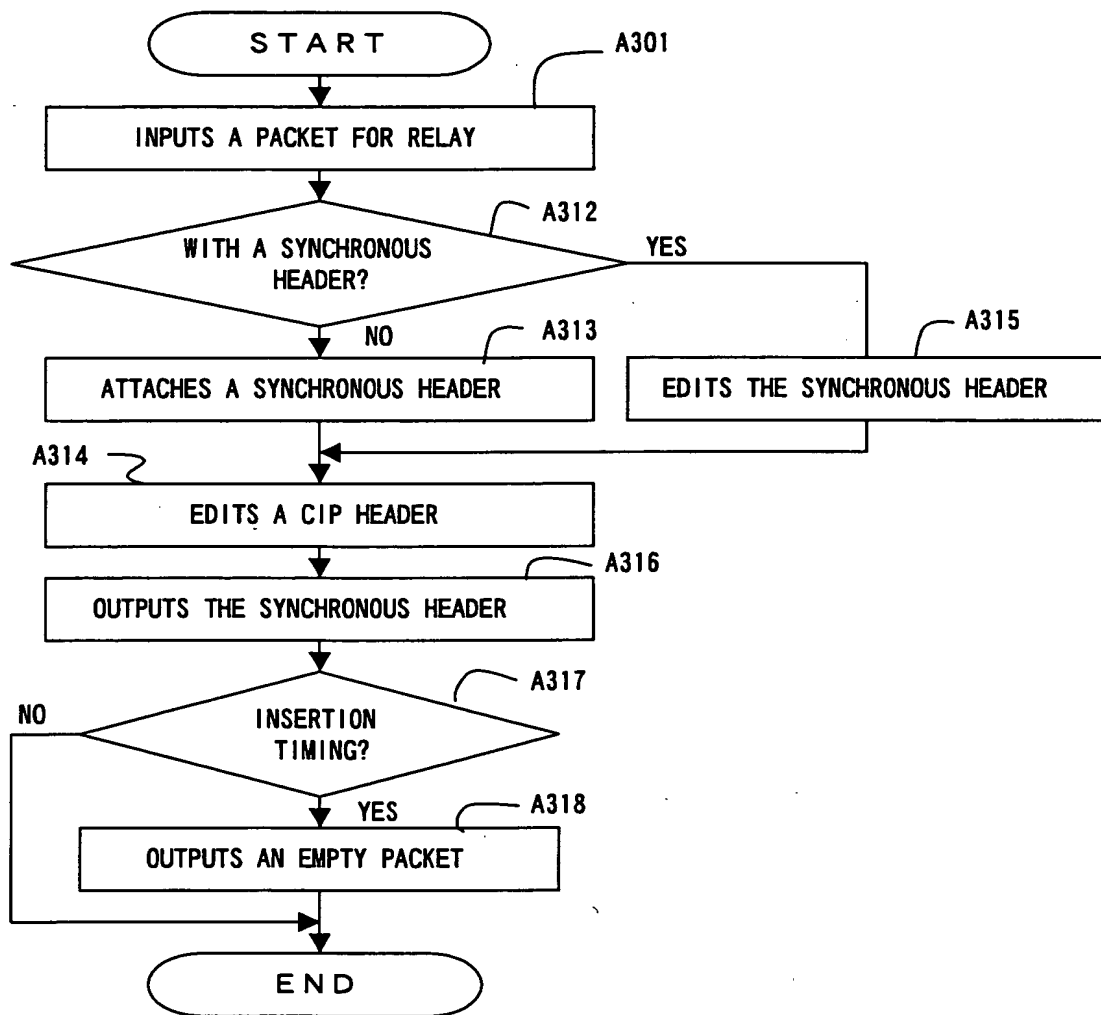


FIG. 39

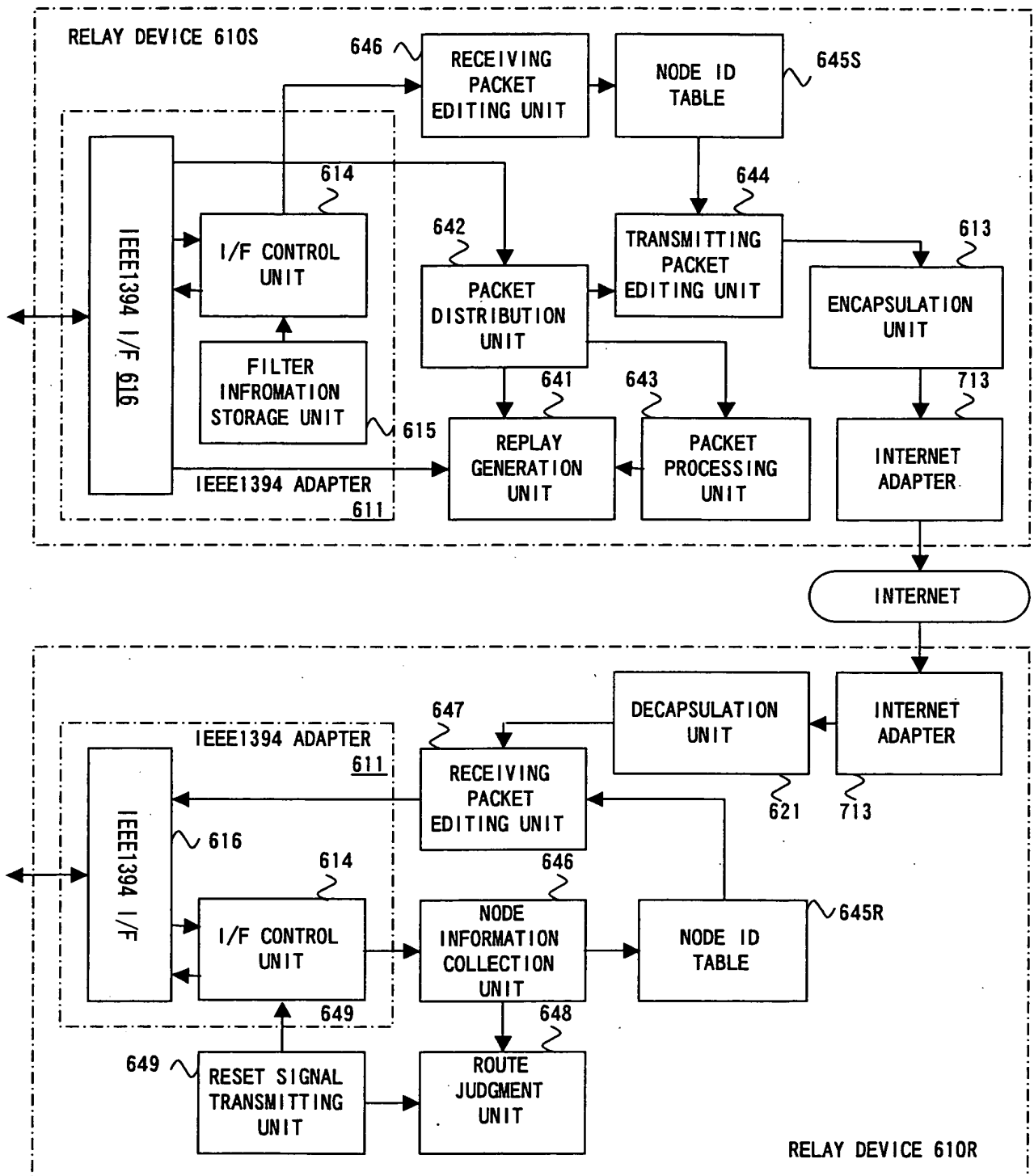


FIG. 40

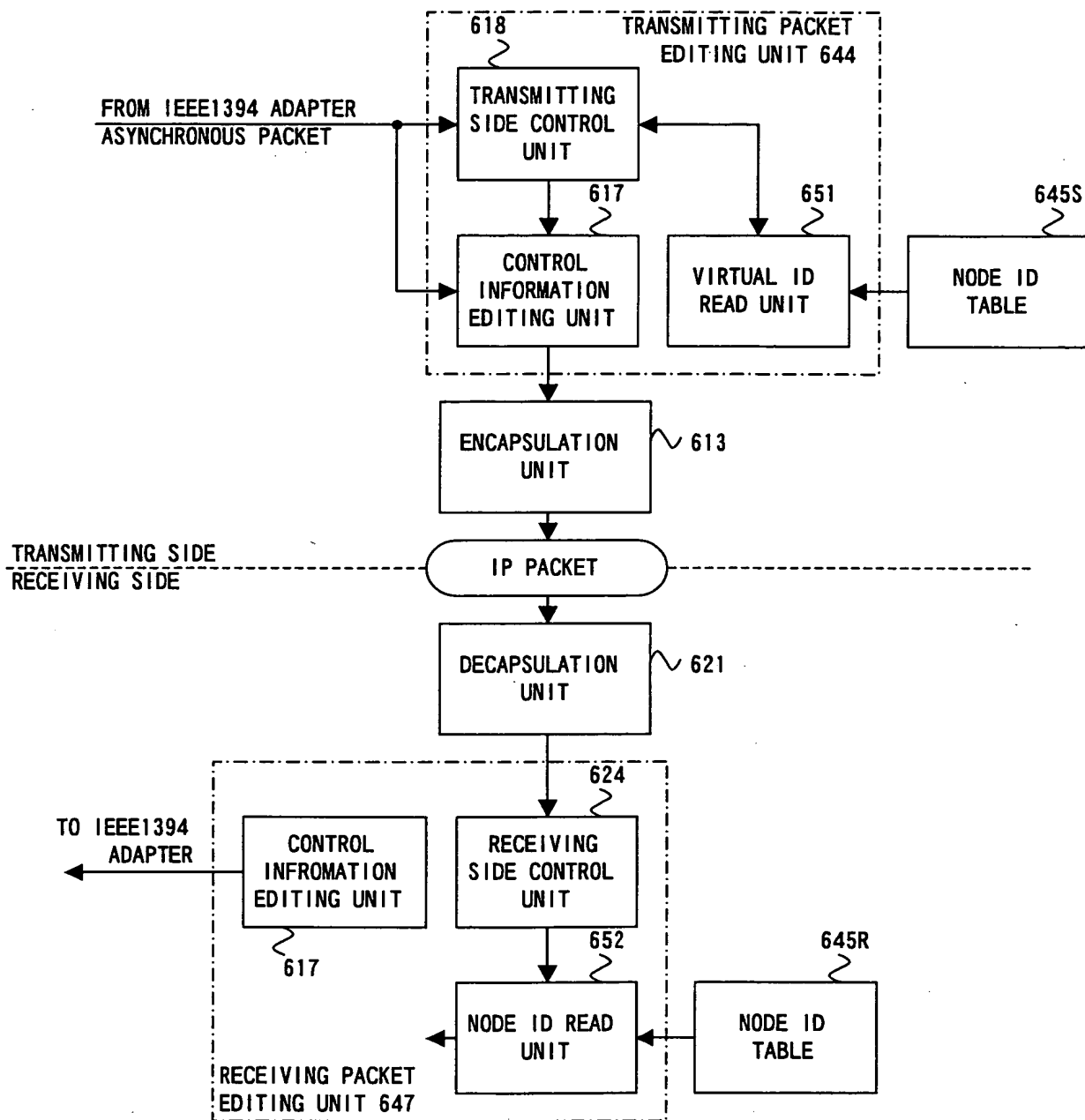


FIG. 41

FIG. 42A

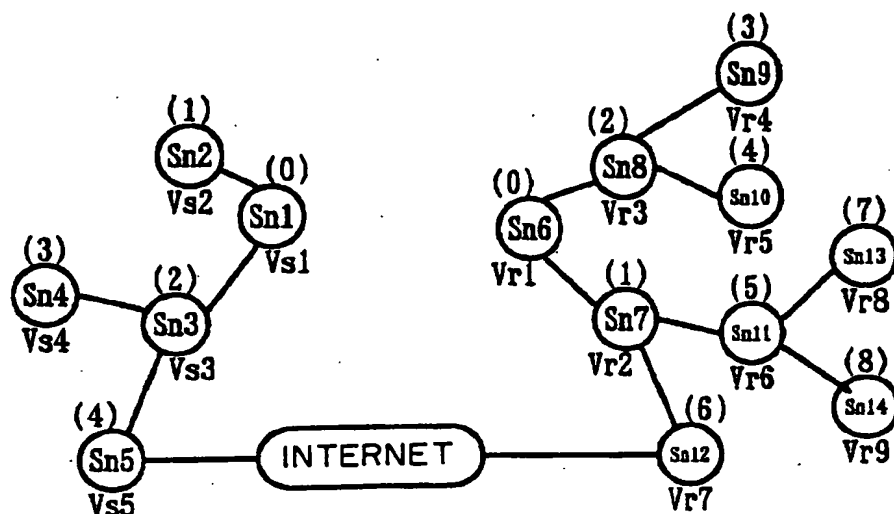


FIG. 42B

SERIAL No.	VIRTUAL ID	NODE ID
Sn 1	Vs 1	0
Sn 2	Vs 2	1
⋮	⋮	⋮
Sn 5	Vs 5	4

FIG. 42C

SERIAL No.	VIRTUAL ID	NODE ID
Sn 6	Vr 1	0
Sn 7	Vr 2	1
⋮	⋮	⋮
Sn14	Vr 9	8

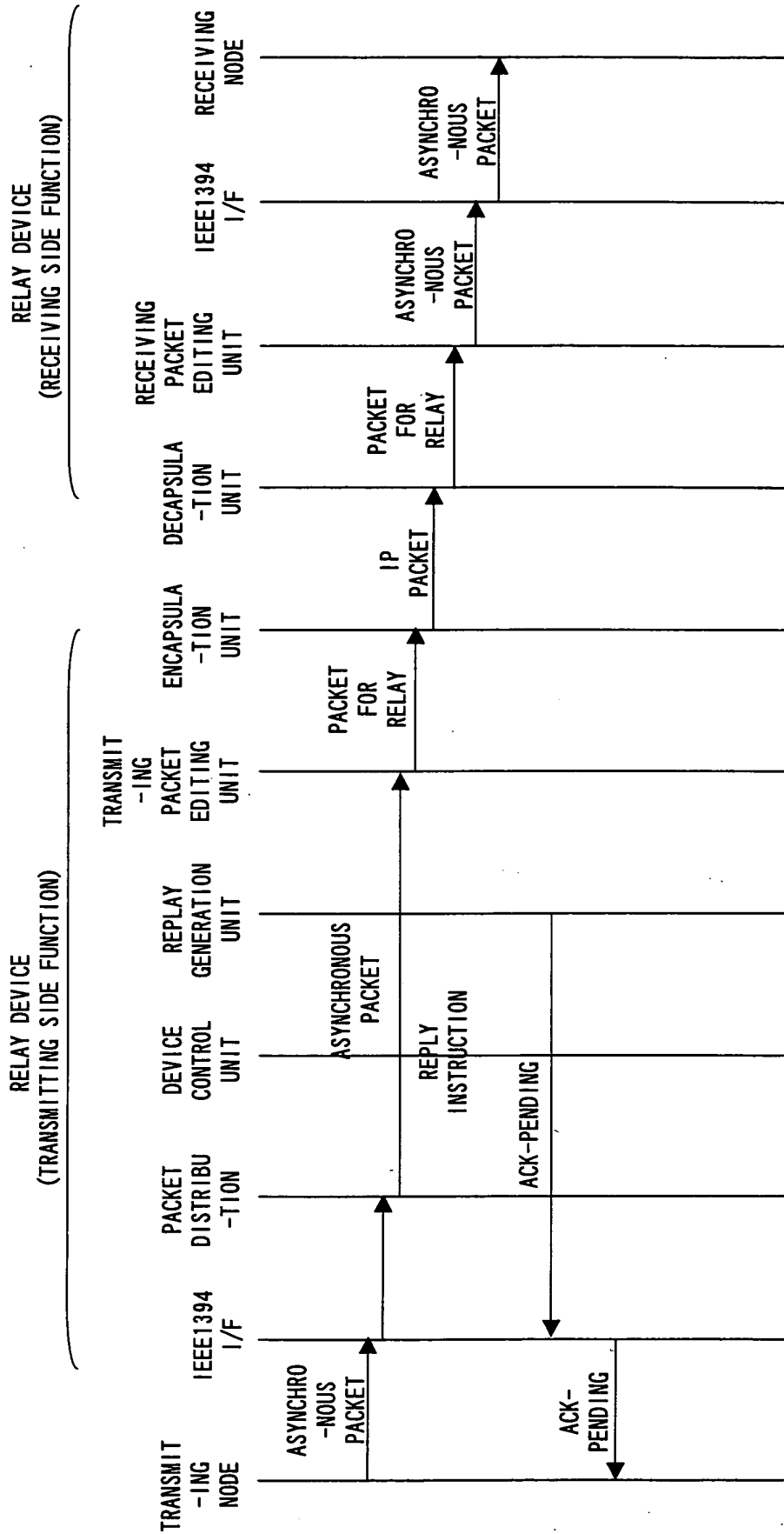


FIG. 43

FIG. 44A

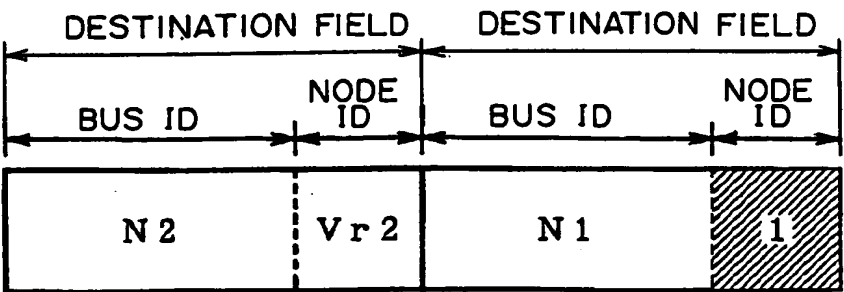


FIG. 44B

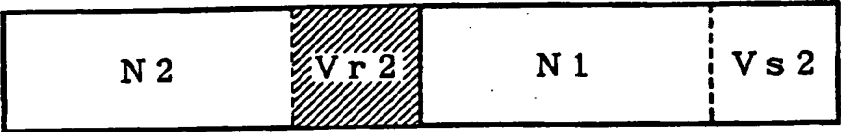
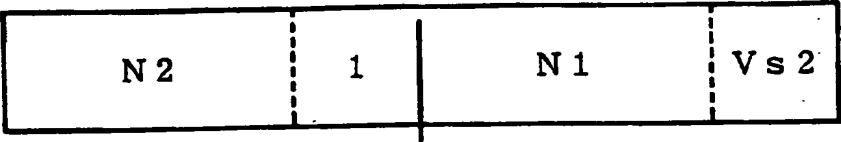


FIG. 44C



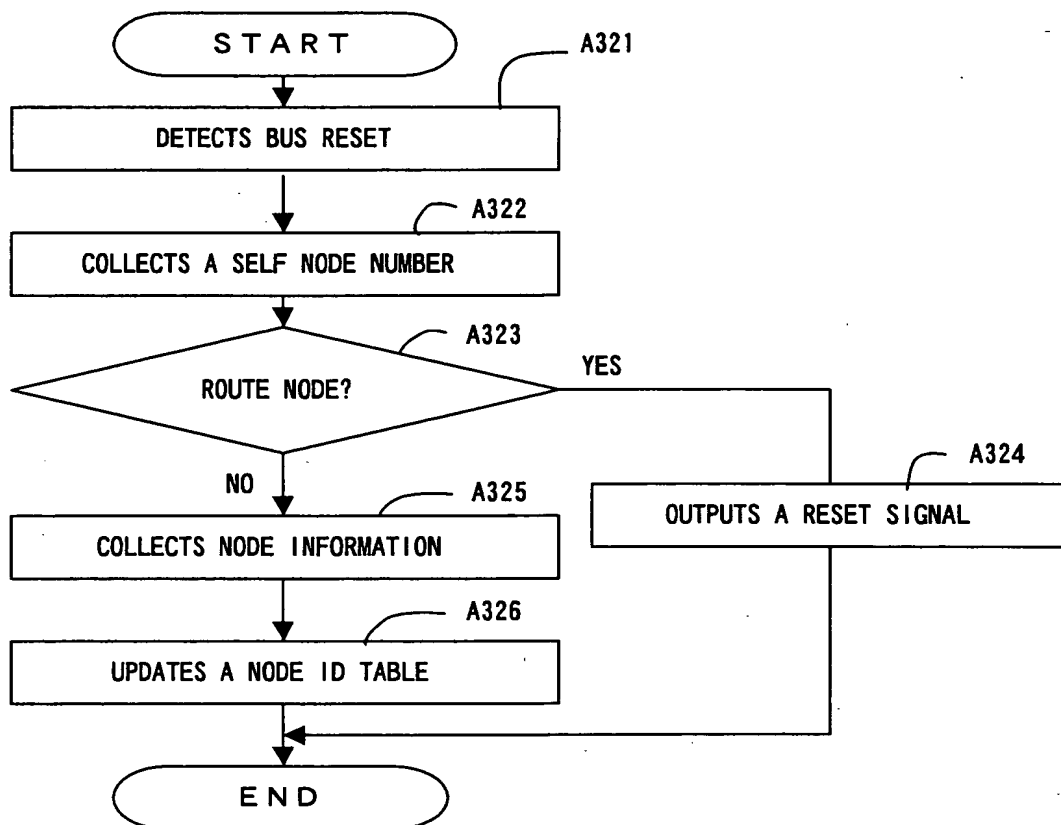
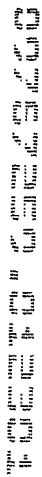


FIG. 45



F I G . 4 6

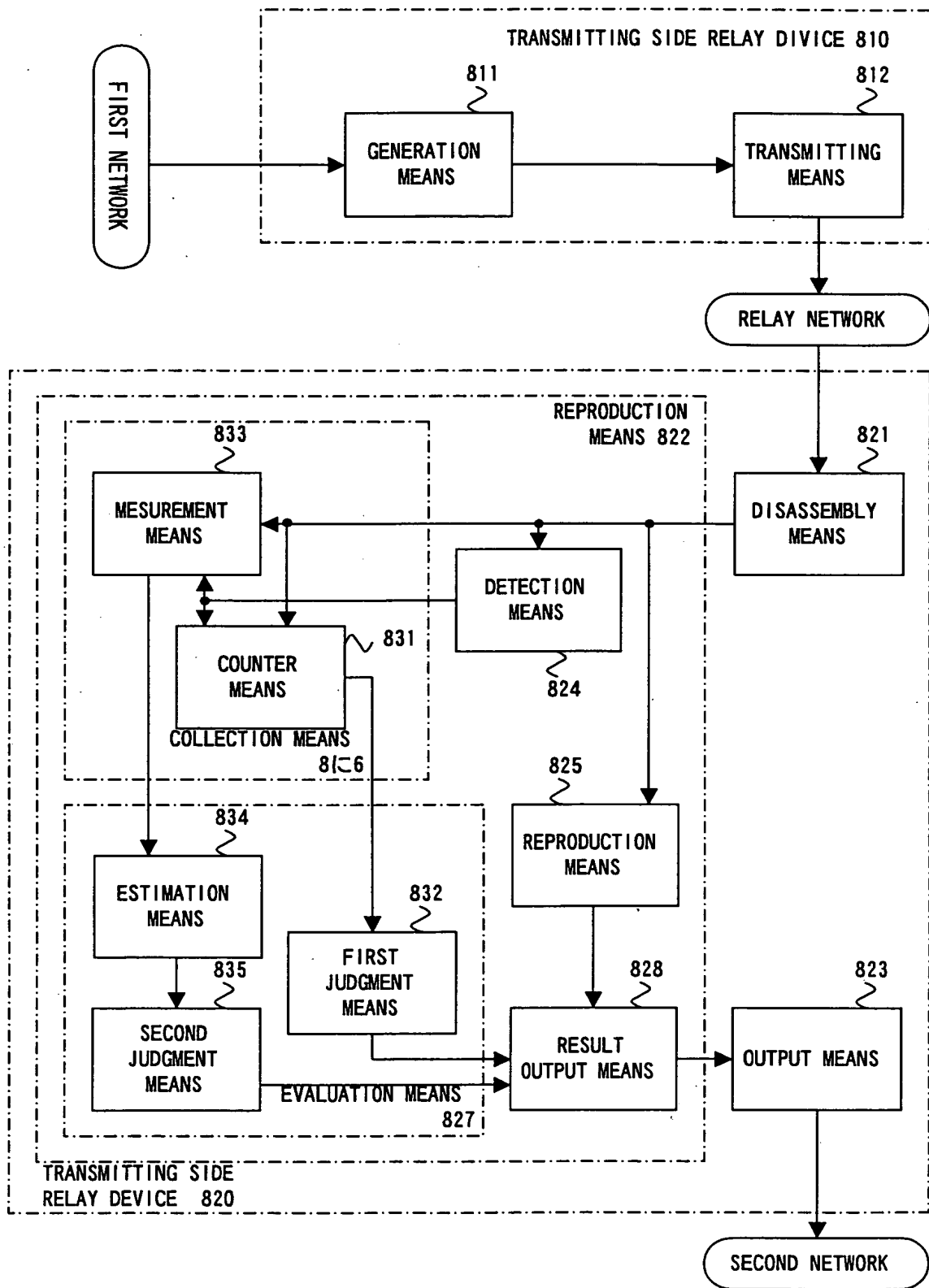


FIG. 47

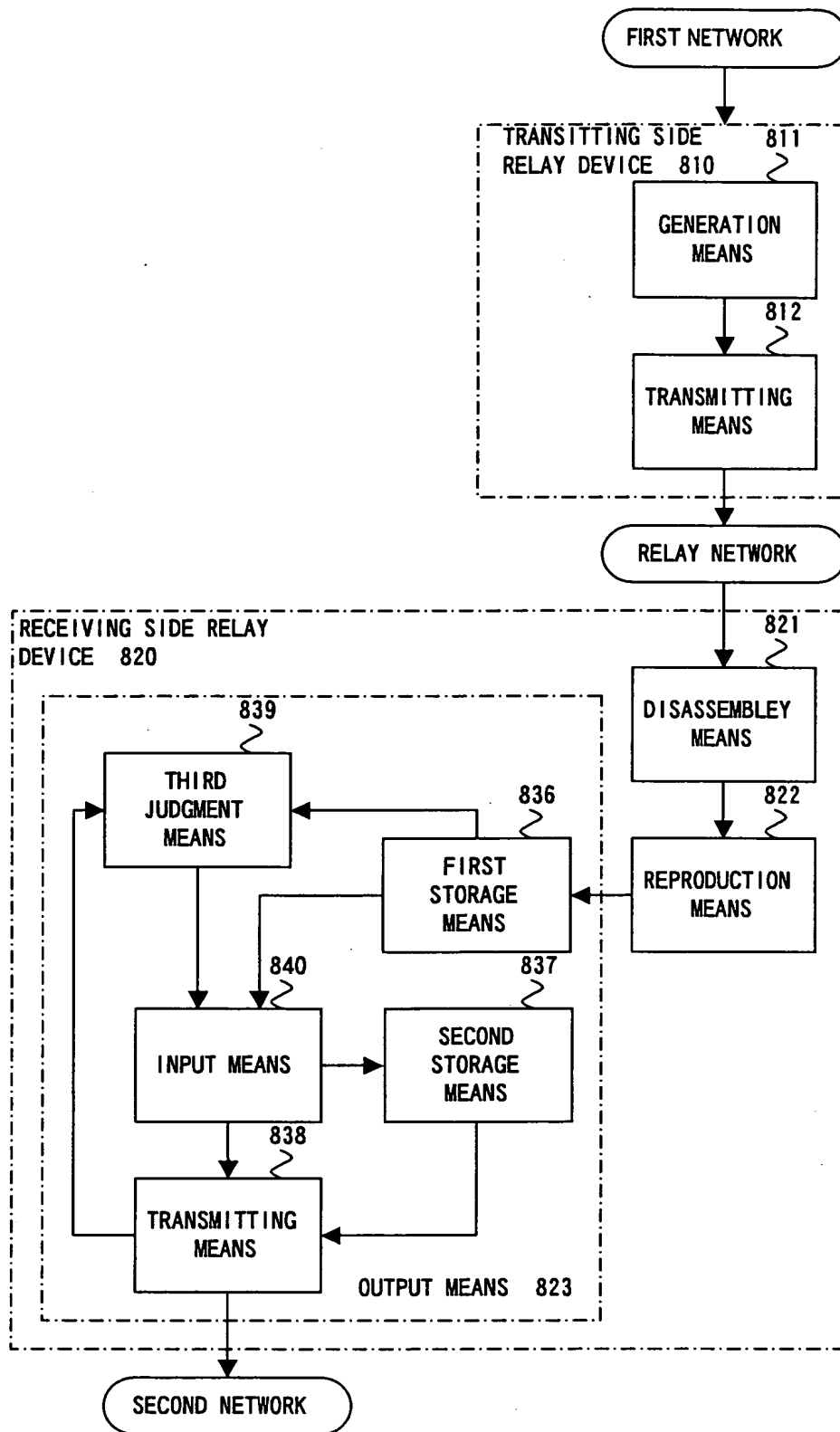


FIG. 48

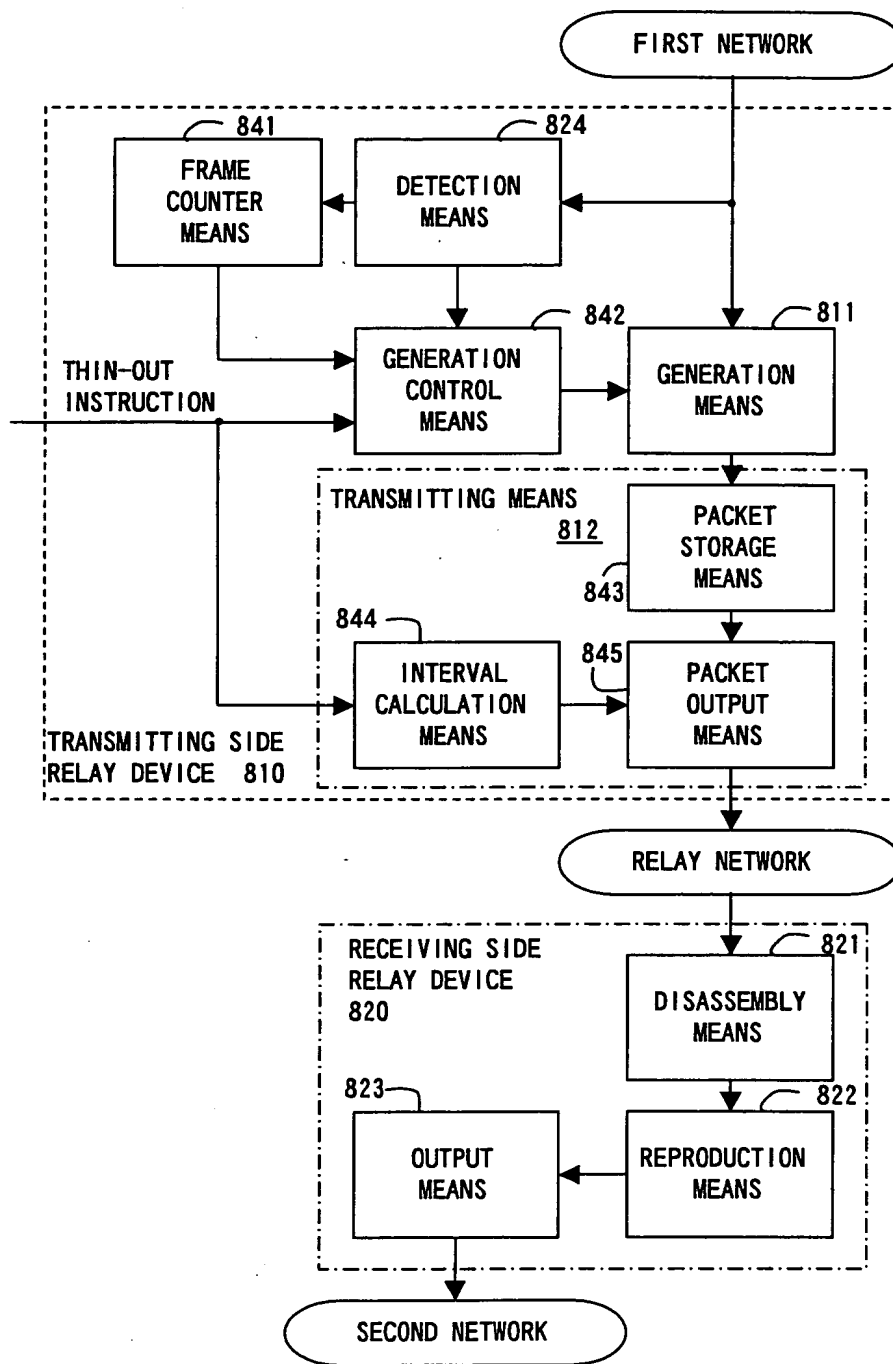


FIG. 49

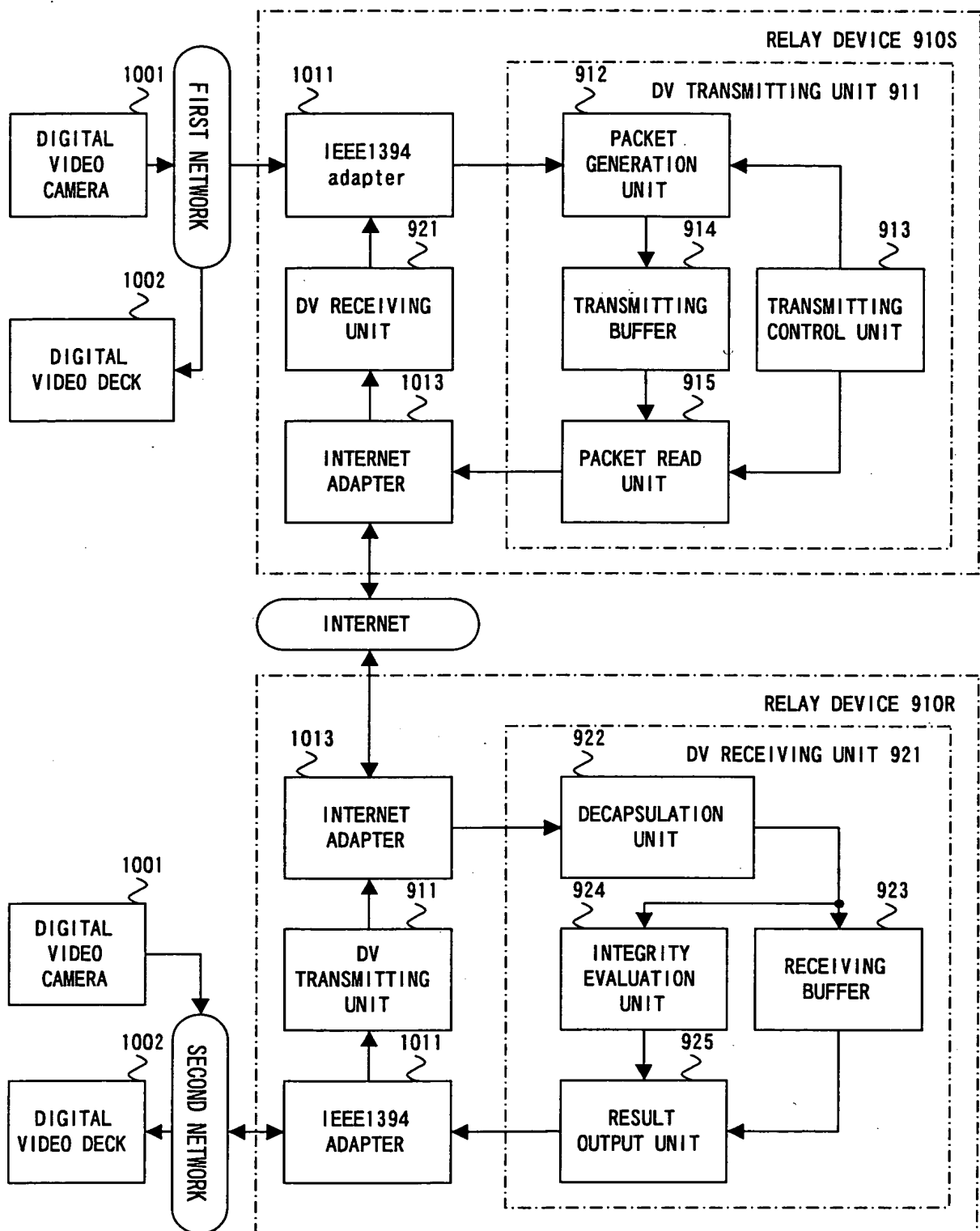


FIG. 50

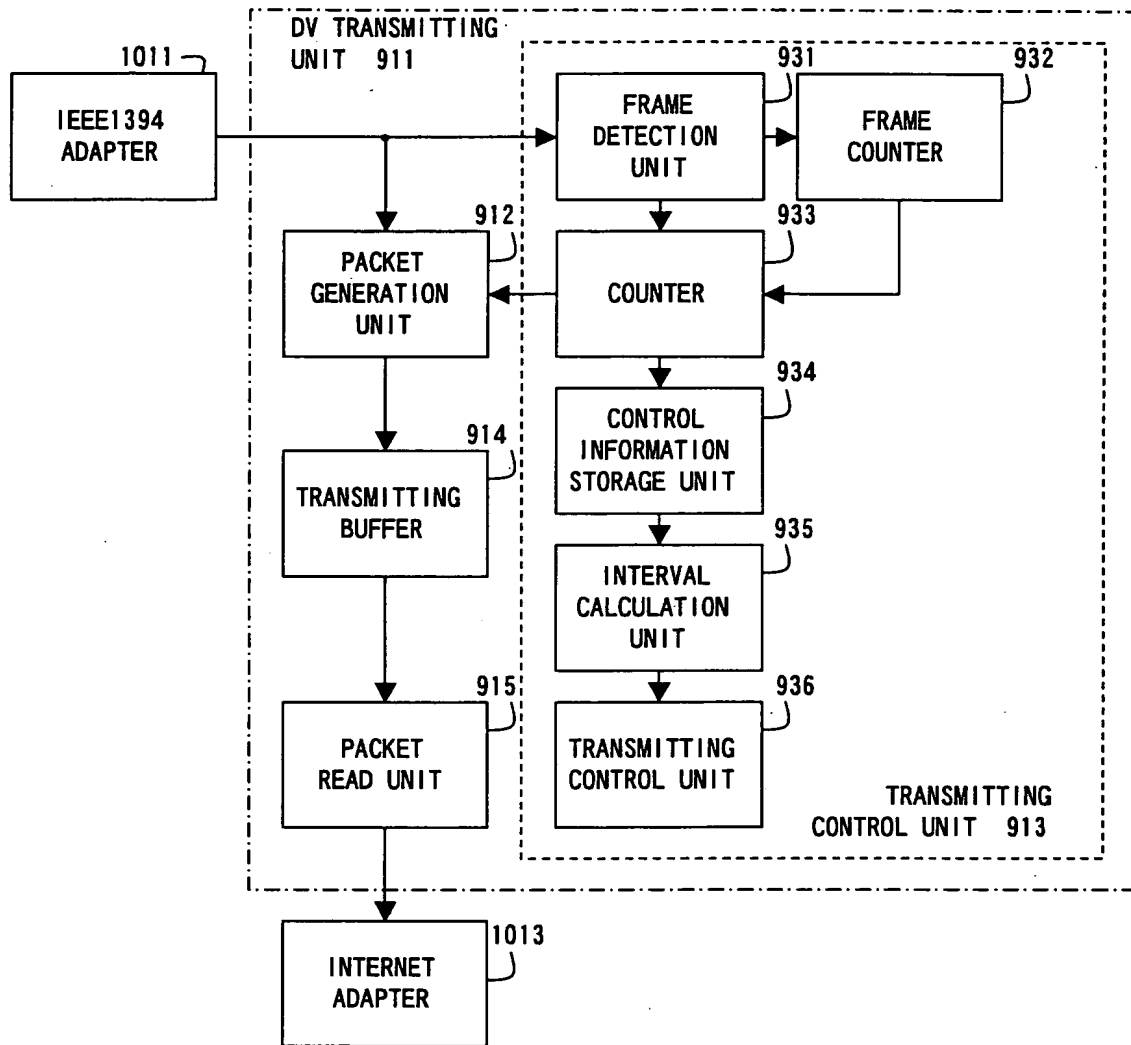


FIG. 51

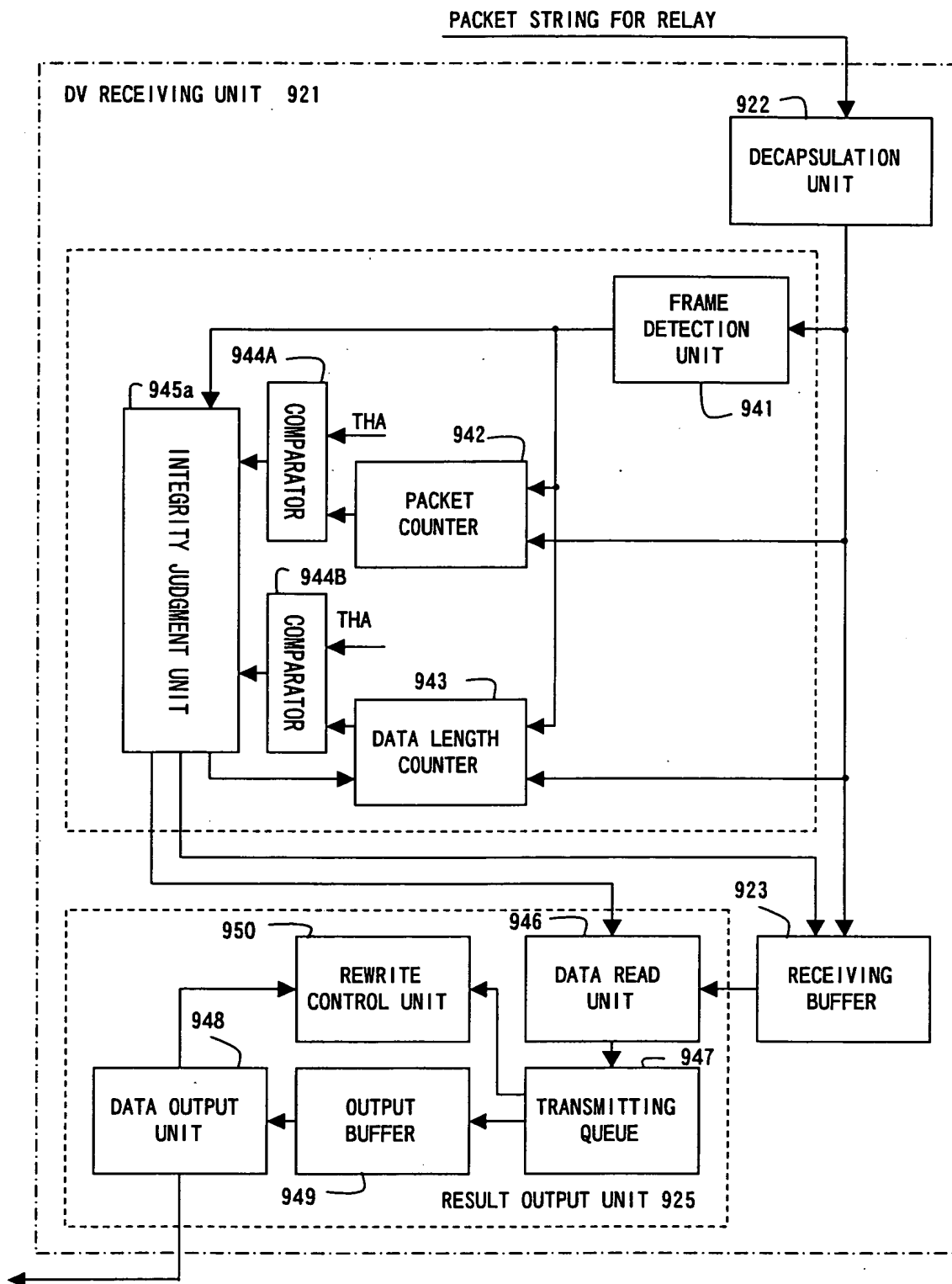


FIG. 52

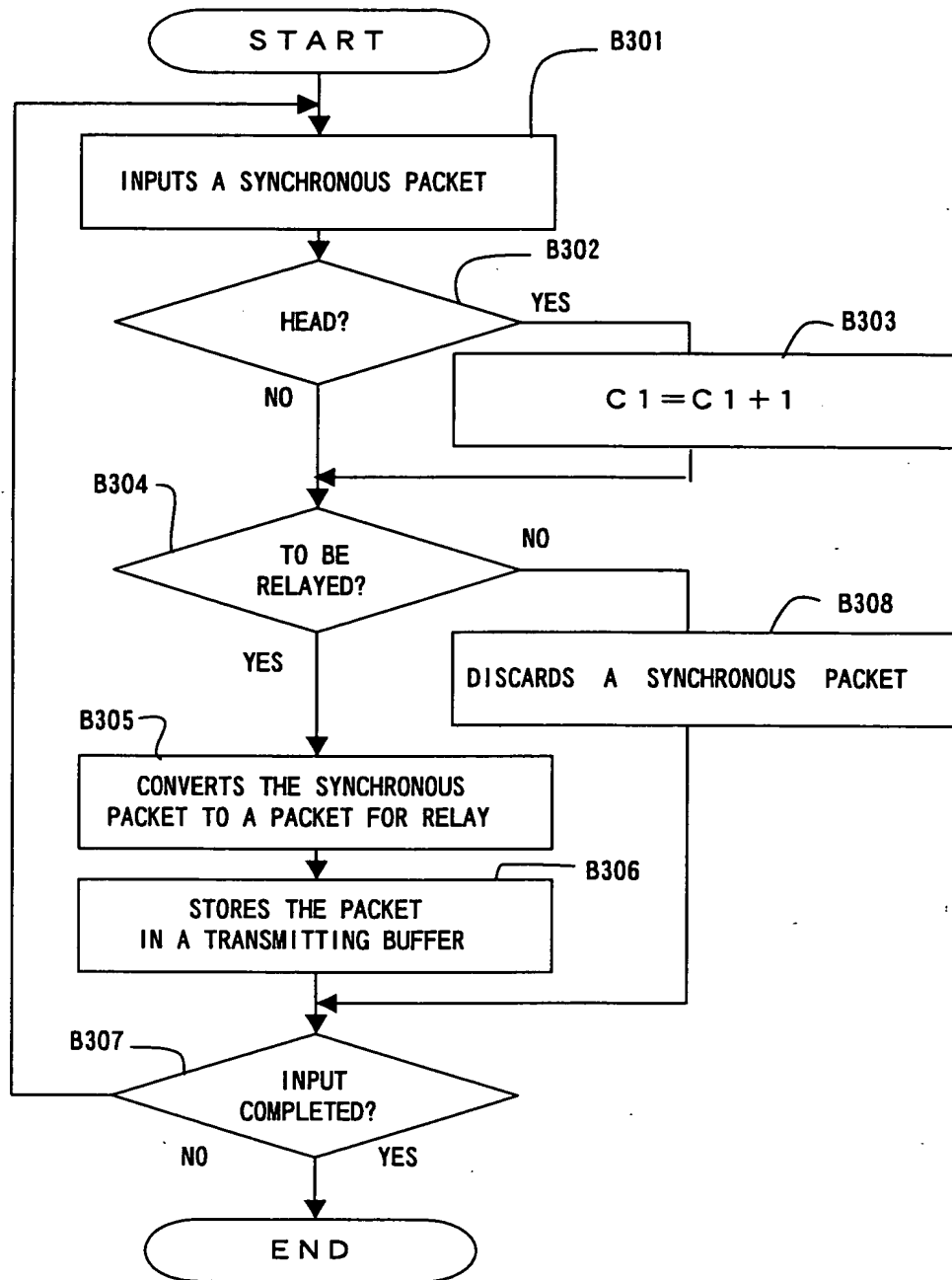


FIG. 53A

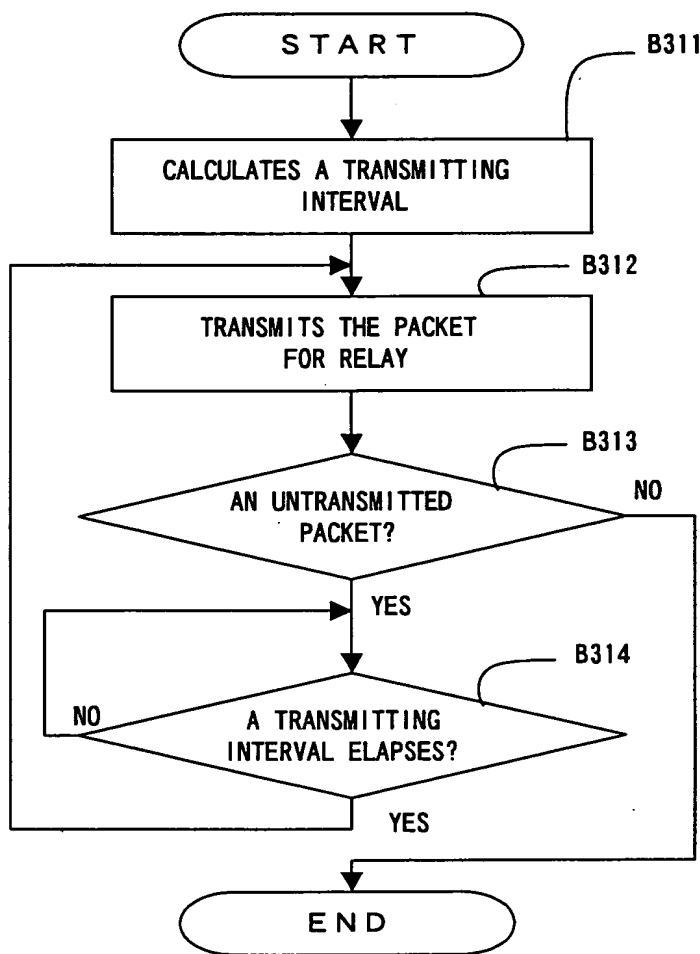


FIG. 53B

FIG. 54A

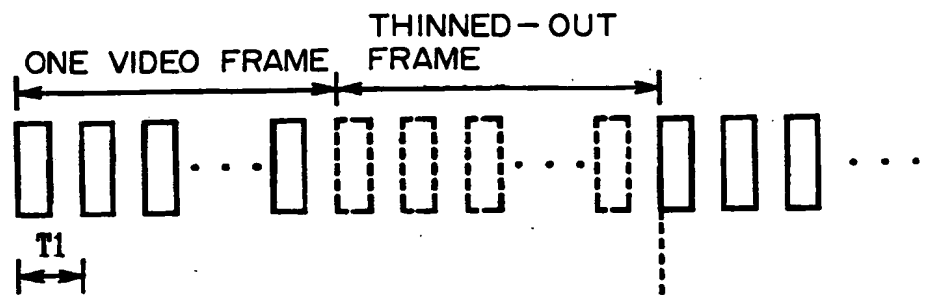
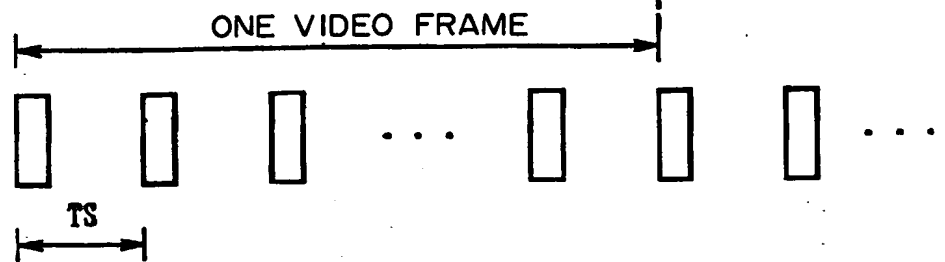


FIG. 54B



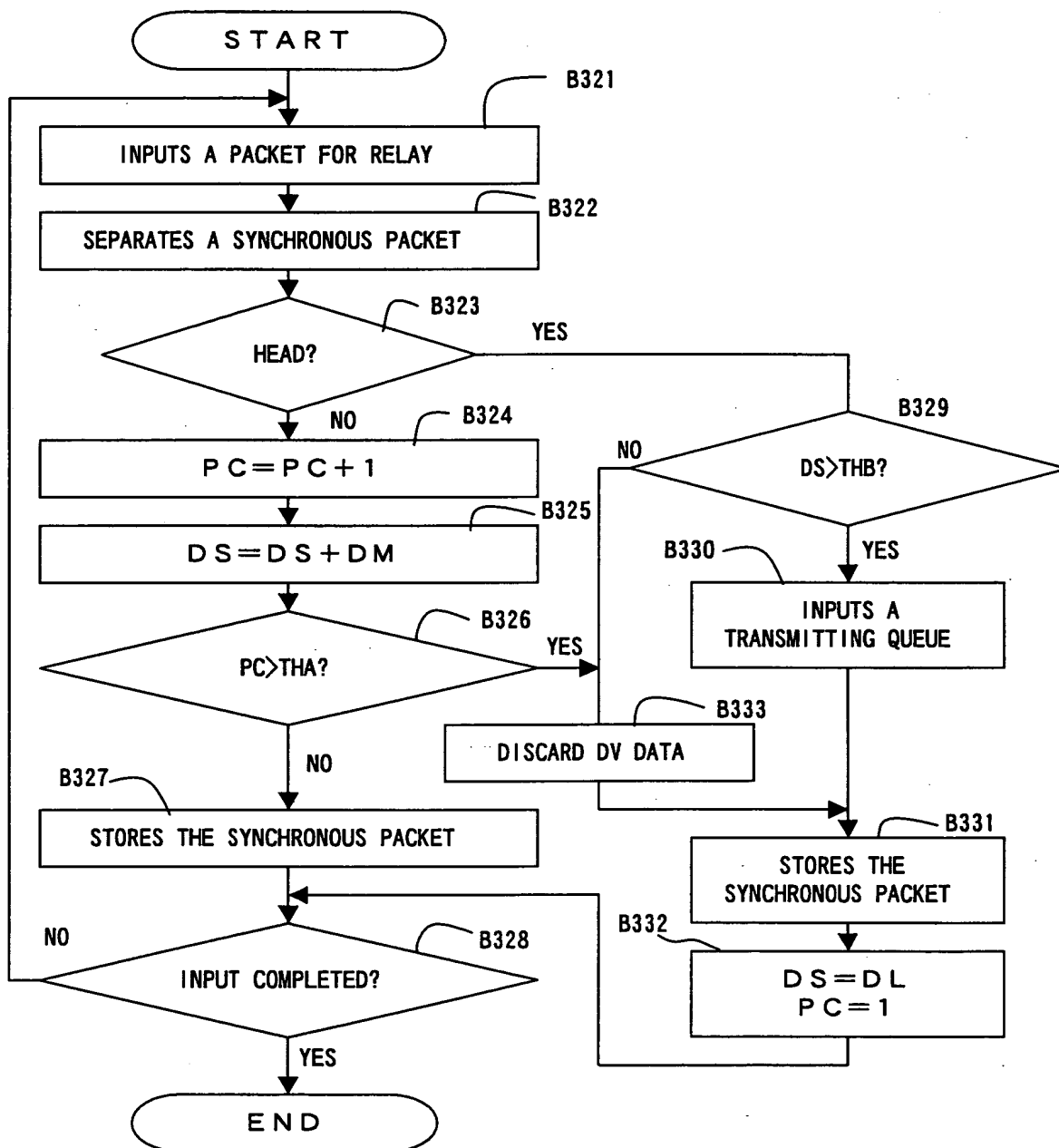


FIG. 55

FIG. 56A

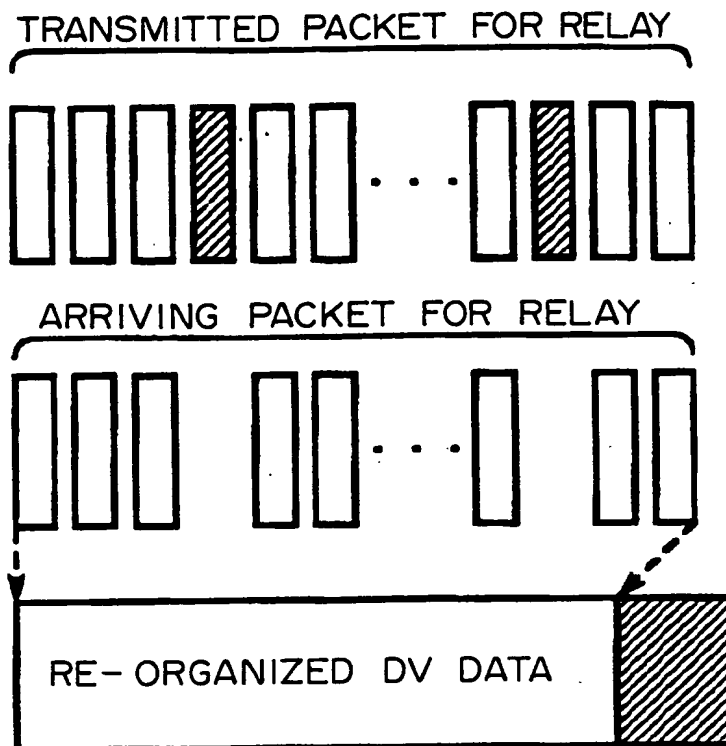
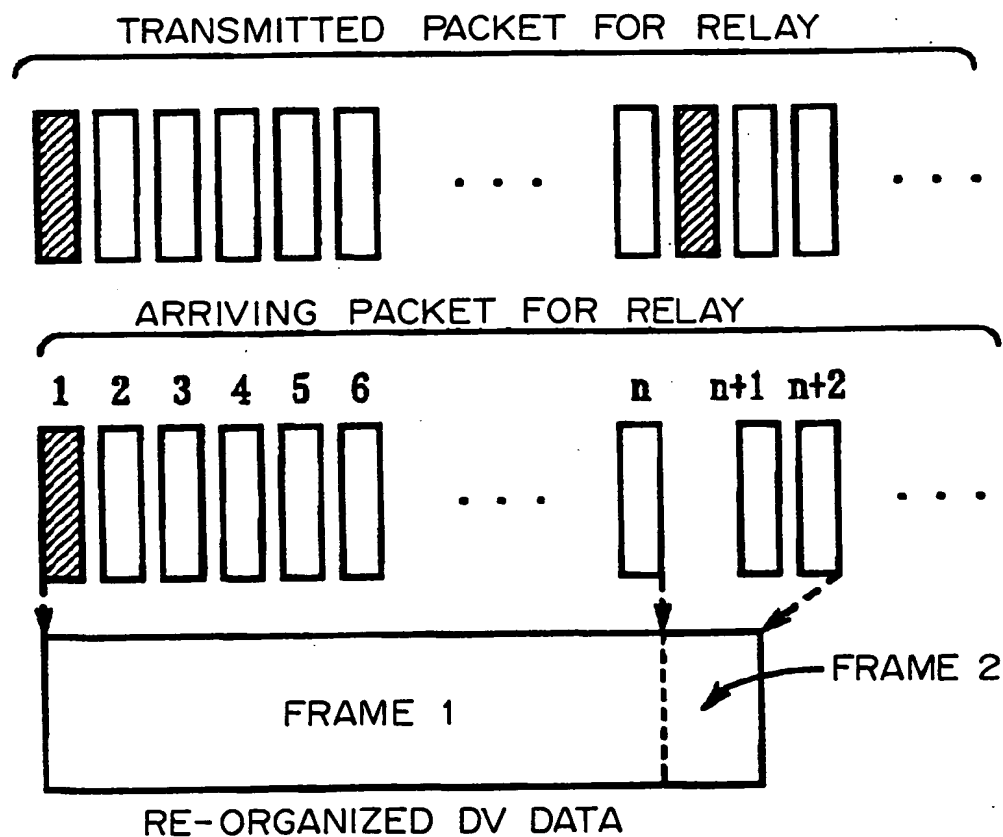


FIG. 56B



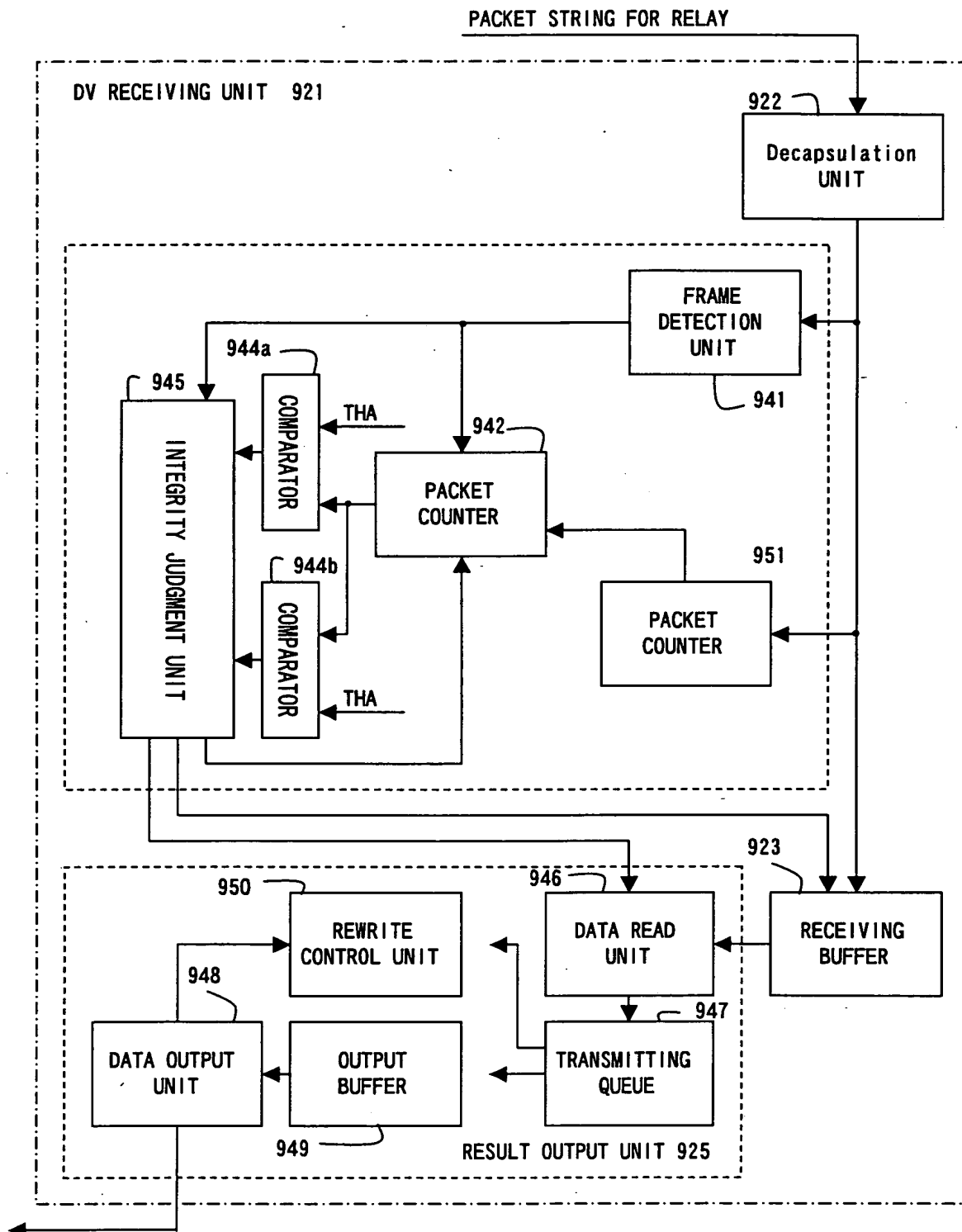


FIG. 57

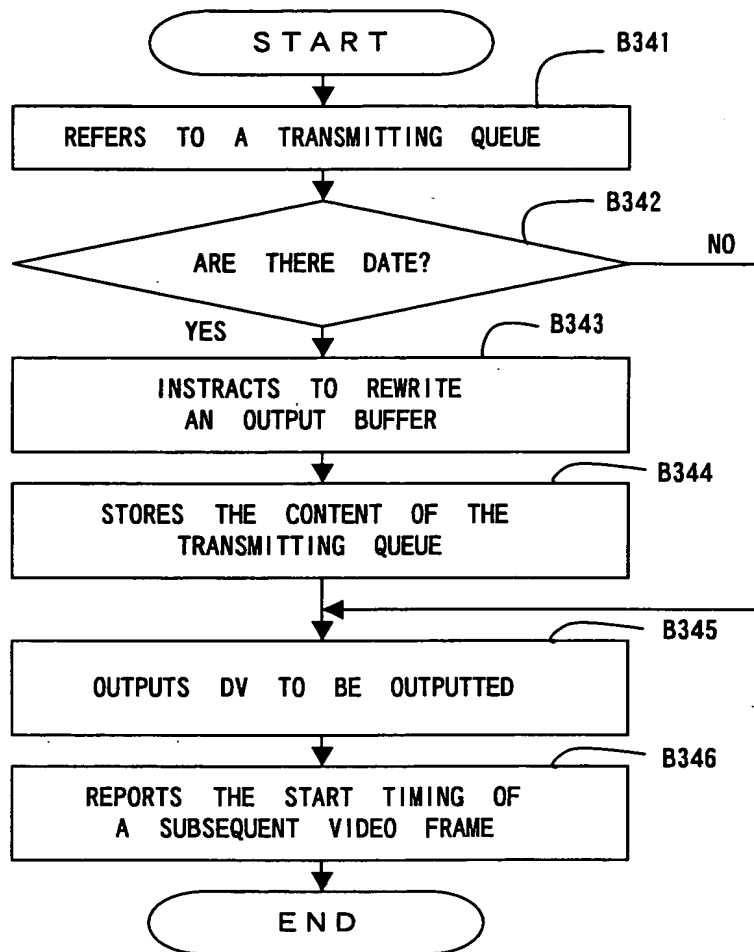


FIG. 58

FIG. 59A

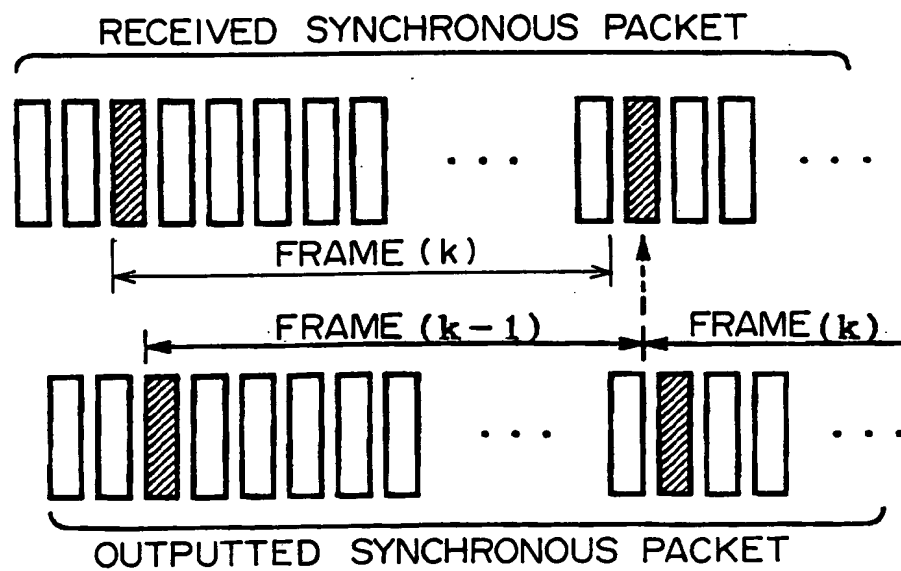
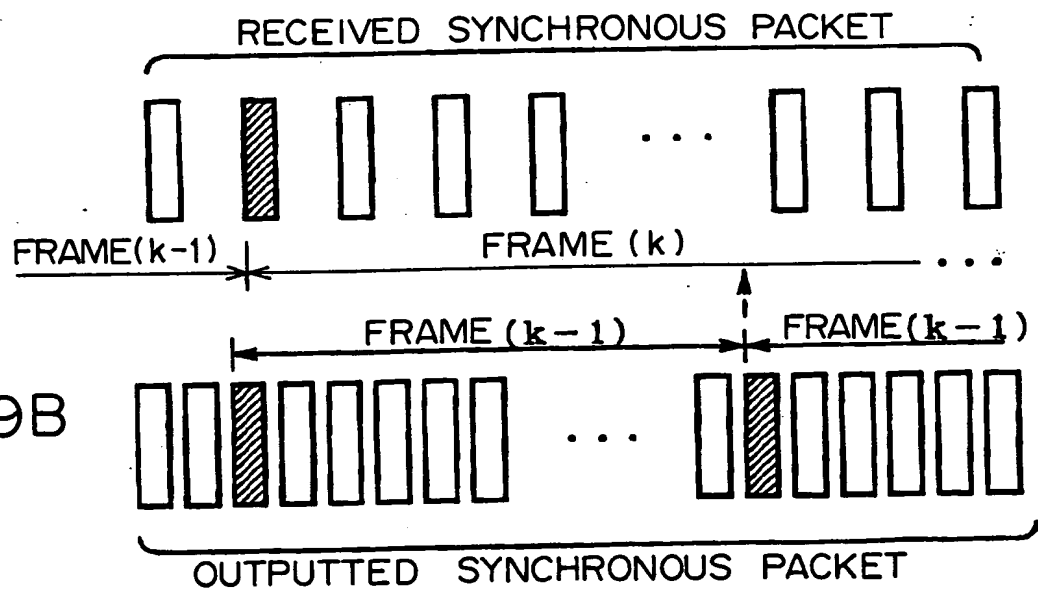


FIG. 59B



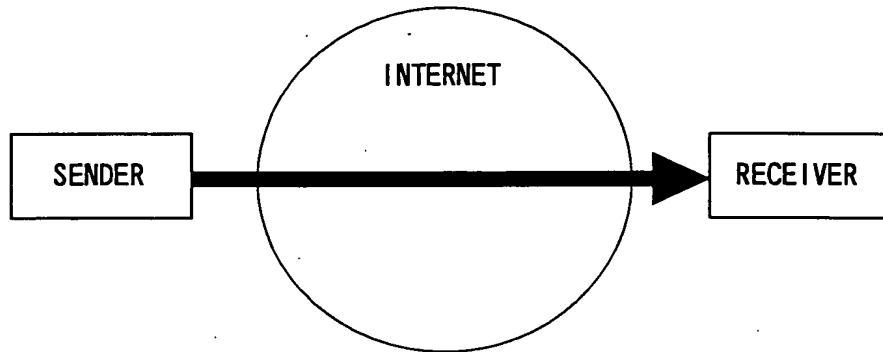


FIG. 60A

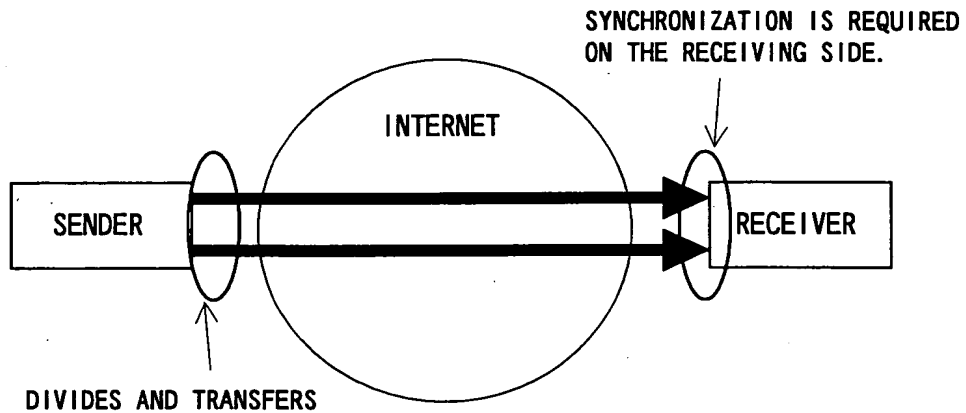


FIG. 60B

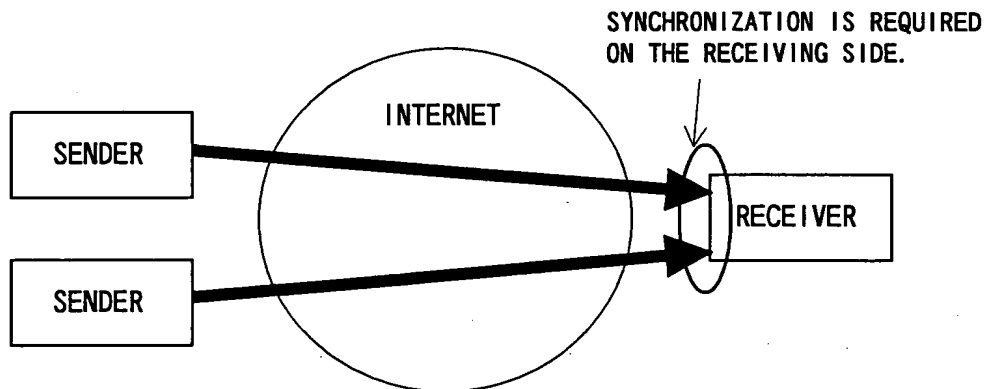


FIG. 60C

FIG. 61 is a block diagram of a relay device 1110. The relay device 1110 includes an IEEE1394 adapter 1111, a DV->DV/IP converter 1112, and an Internet adapter 1114. The IEEE1394 adapter 1111 is connected to a transmitter 1113 and a receiver 1114. The DV->DV/IP converter 1112 is connected to the IEEE1394 adapter 1111 and the Internet adapter 1114. The Internet adapter 1114 is connected to the Internet.

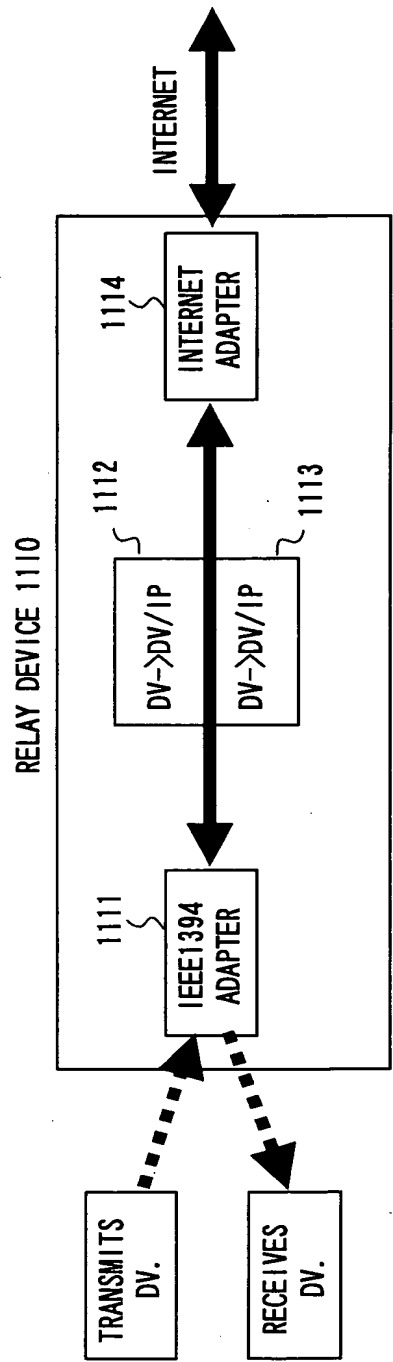


FIG. 61

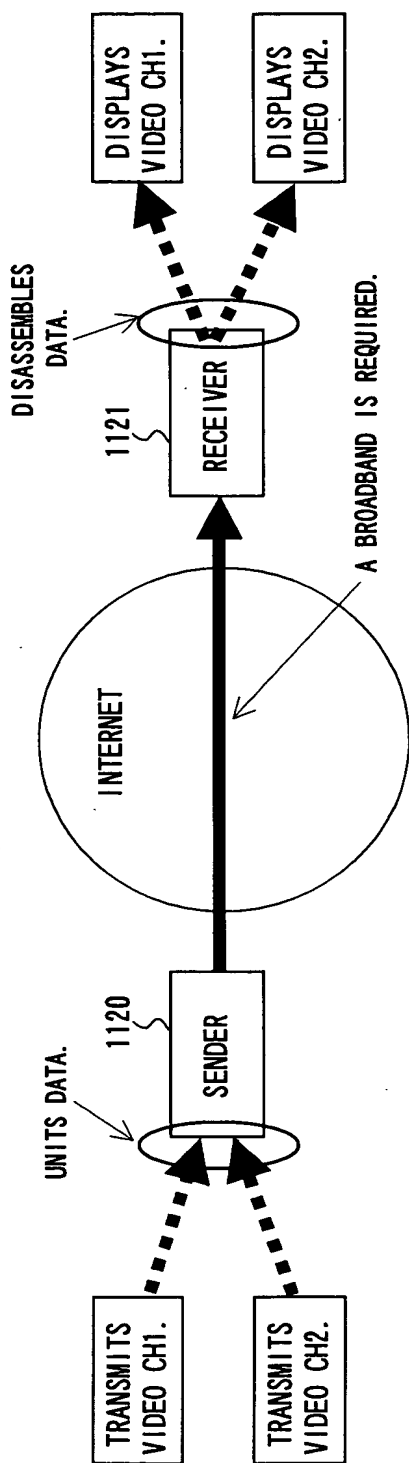


FIG. 62

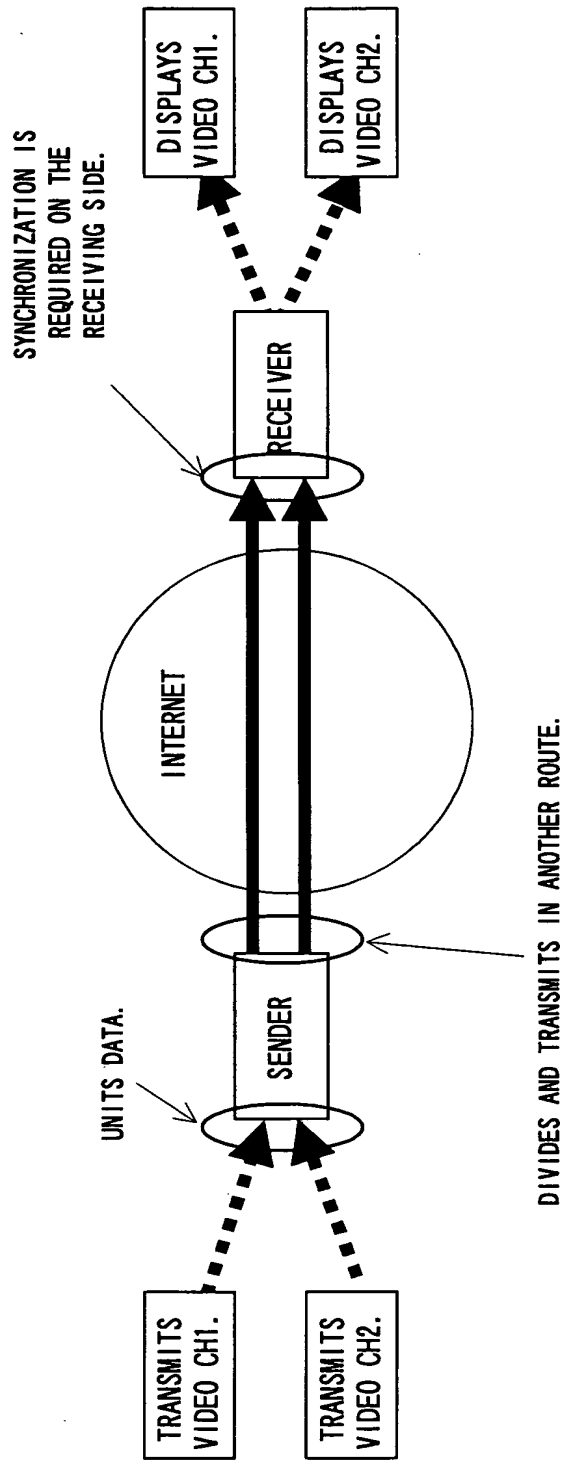


FIG. 63

FIG. 64 is a block diagram of a transmitting relay device 1200.

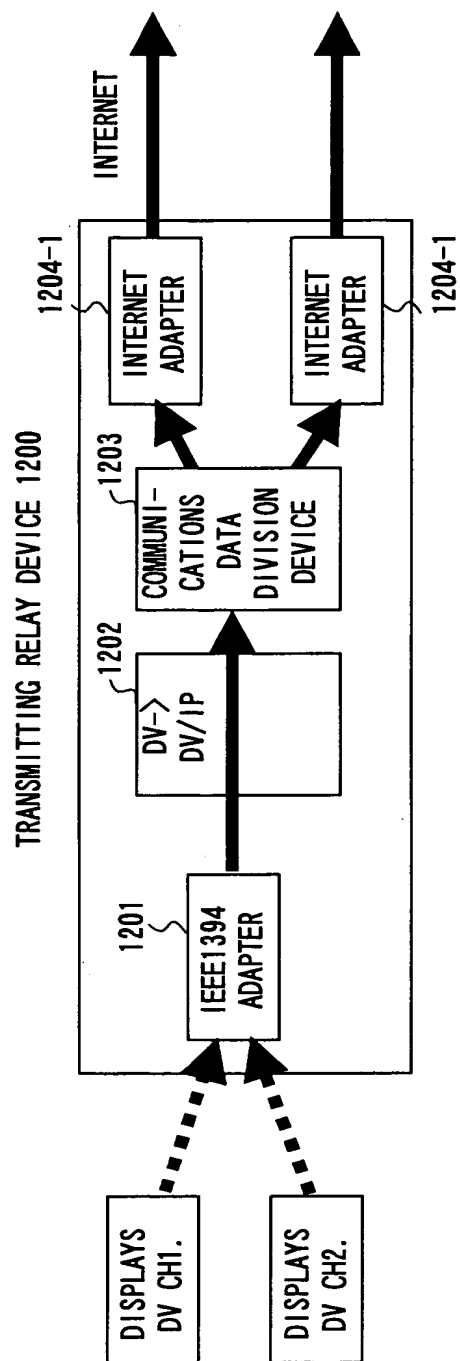


FIG. 64

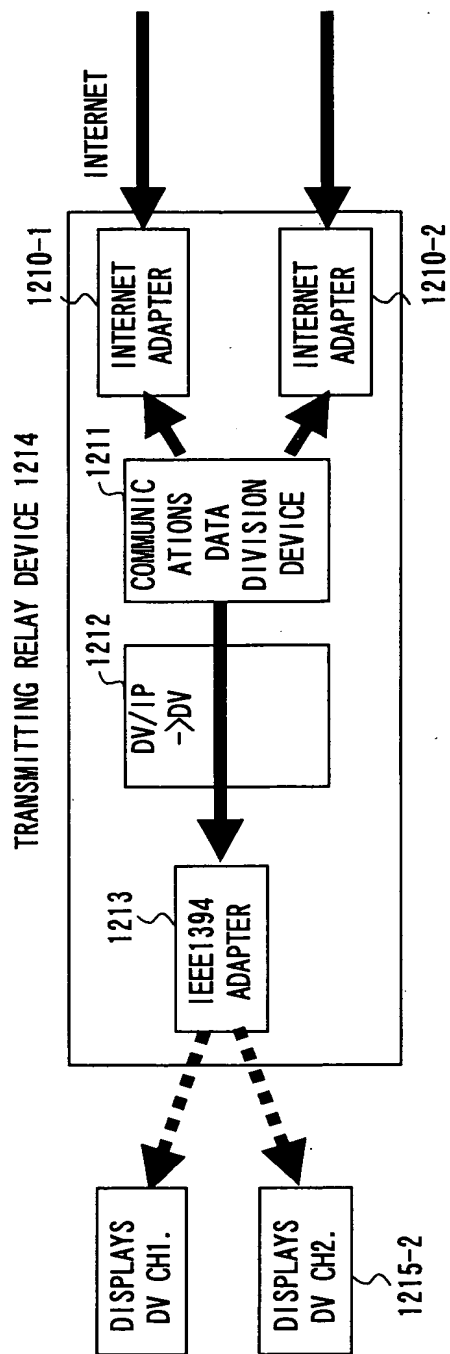


FIG. 65

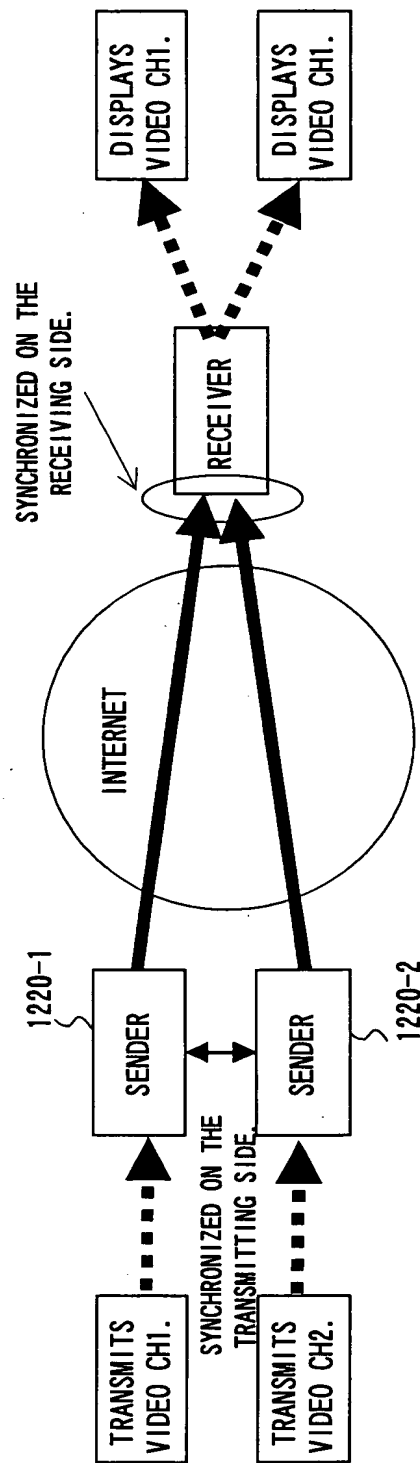


FIG. 66

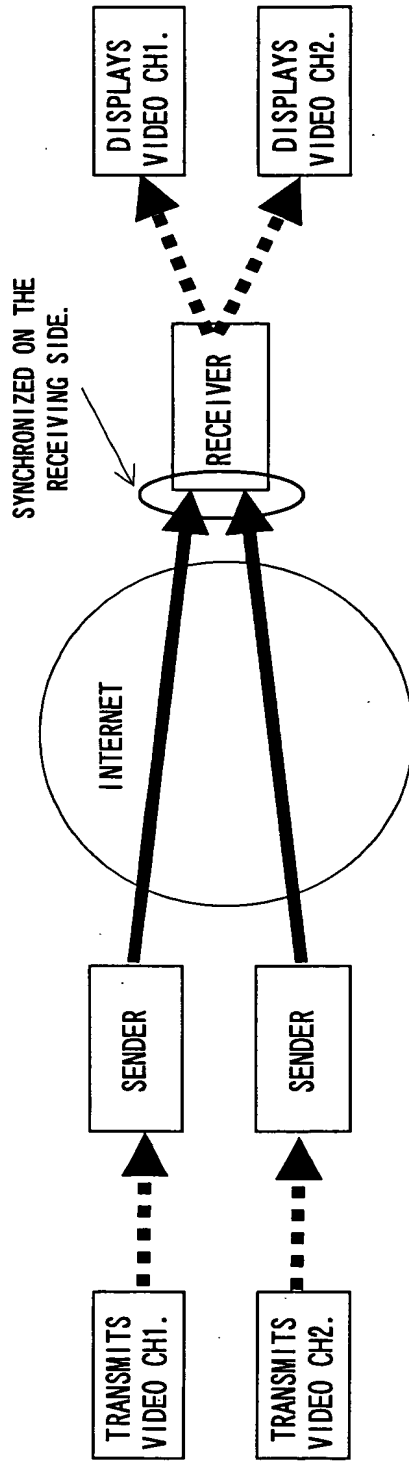


FIG. 68

The diagram illustrates a video-on-demand system architecture. It features two parallel processing paths for two different video channels, CH1 and CH2. Each path starts with a 'TRANSMITS VIDEO CH1.' or 'TRANSMITS VIDEO CH2.' block, followed by a dashed arrow pointing to a 'SENDER' block. From each 'SENDER' block, a solid arrow points to a 'RECEIVER' block. These 'RECEIVER' blocks are connected to a central cloud labeled 'INTERNET'. A double-headed vertical arrow labeled 'CONTROLS SYNCHRONIZATION.' connects the two 'RECEIVER' blocks. Finally, dashed arrows point from each 'RECEIVER' block to a 'DISPLAYS VIDEO CH1.' or 'DISPLAYS VIDEO CH2.' block.

FIG. 69

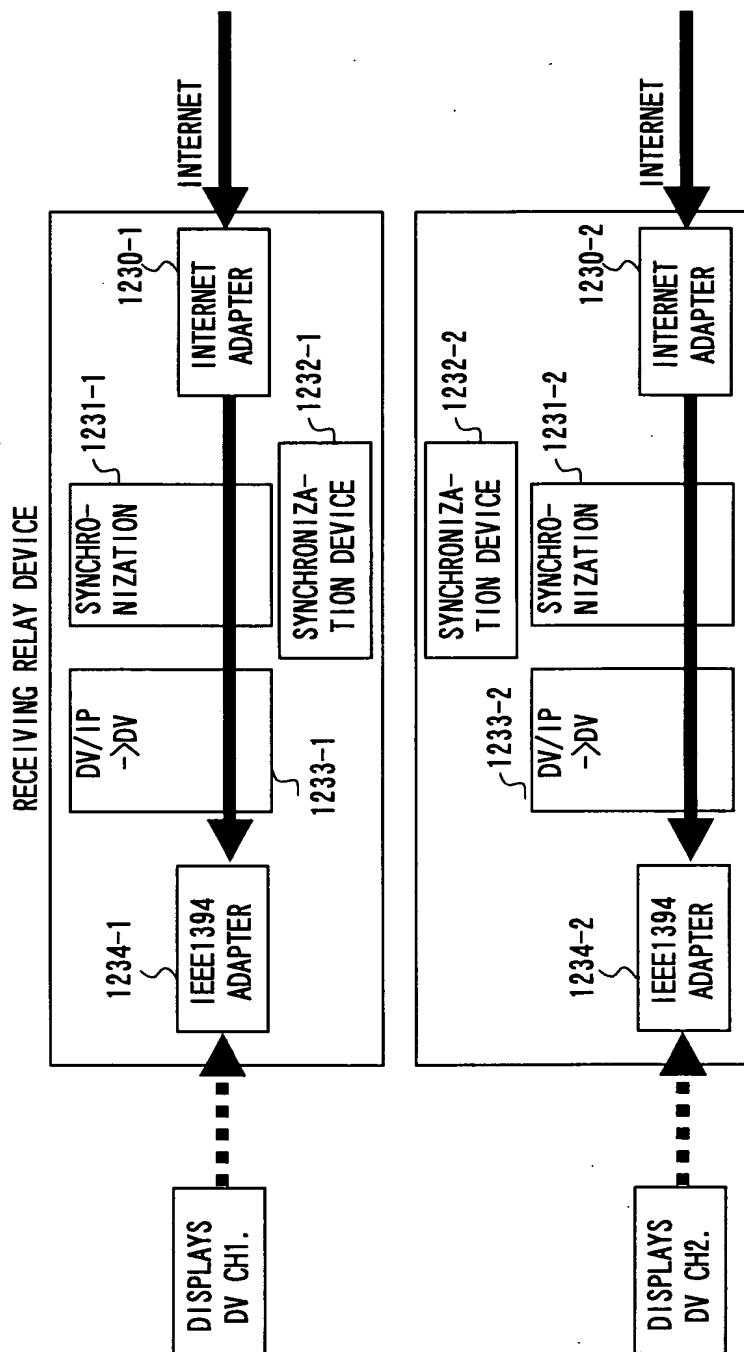


FIG. 70

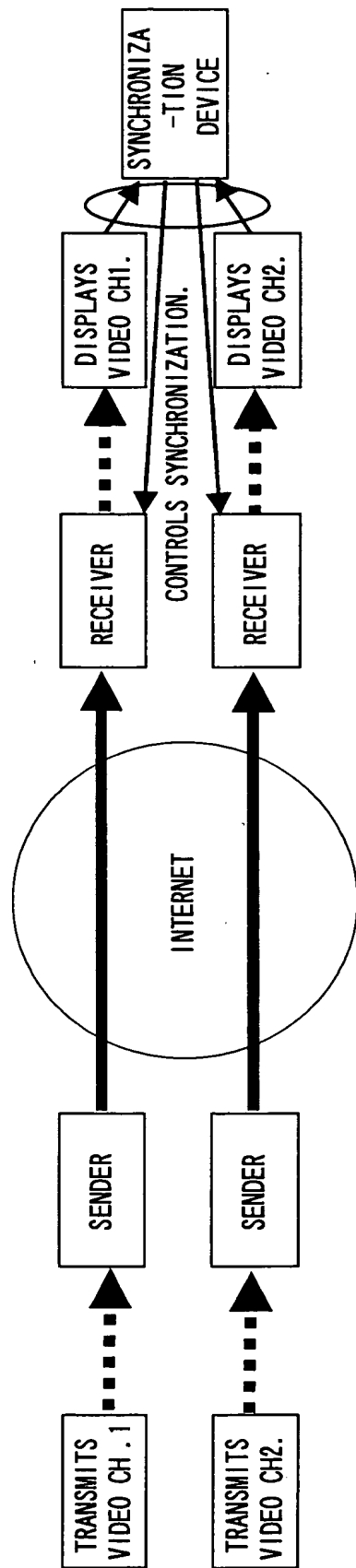


FIG. 71

FIG. 72 is a block diagram of a receiving relay device 1240-1 and 1240-2, which are connected to a synchronization device 1241. The receiving relay device 1240-1 includes an IEEE1394 adapter, a DV/IP converter, and a synchronization unit, which are connected to an Internet adapter. The receiving relay device 1240-2 includes an IEEE1394 adapter, a DV/IP converter, and a synchronization unit, which are connected to an Internet adapter. The synchronization device 1241 is connected to the synchronization units of both receiving relay devices 1240-1 and 1240-2.

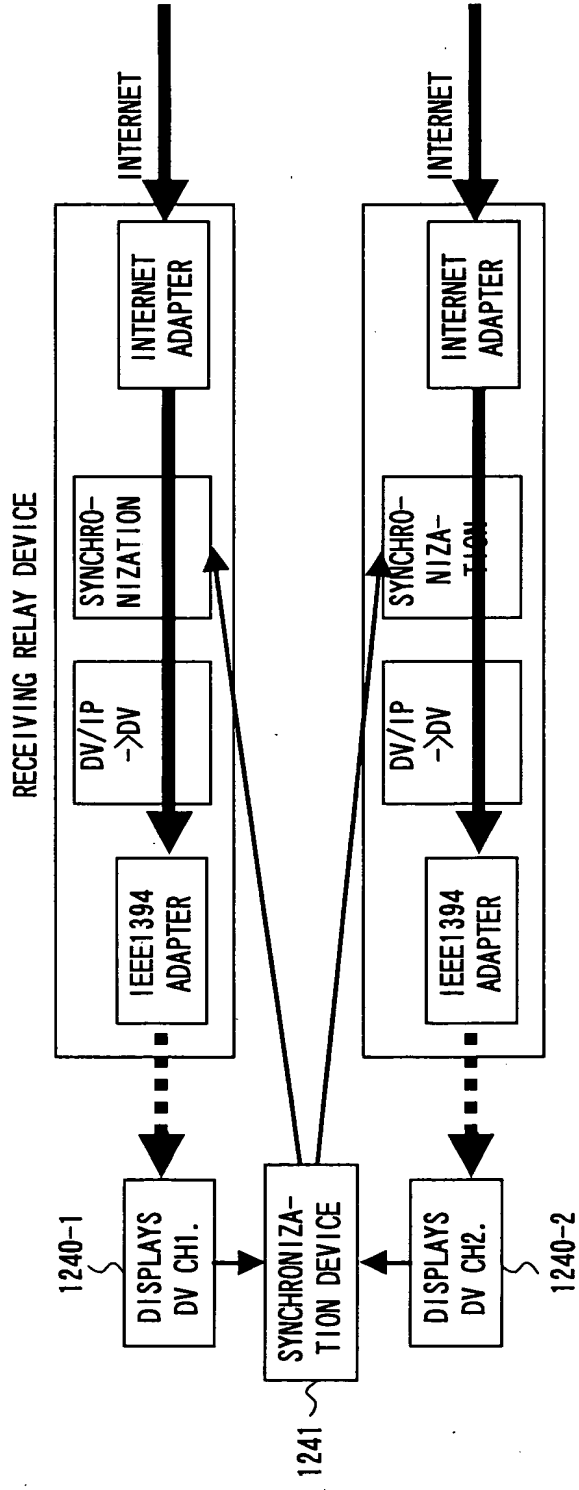


FIG. 72

FIG. 73 is a block diagram of a system for transmitting video data over the Internet. The system includes a sender and a receiver connected by the Internet. The sender transmits video data to the receiver, which then displays the video data. The system is designed to handle multiple video channels and ensure synchronization on the receiving side.

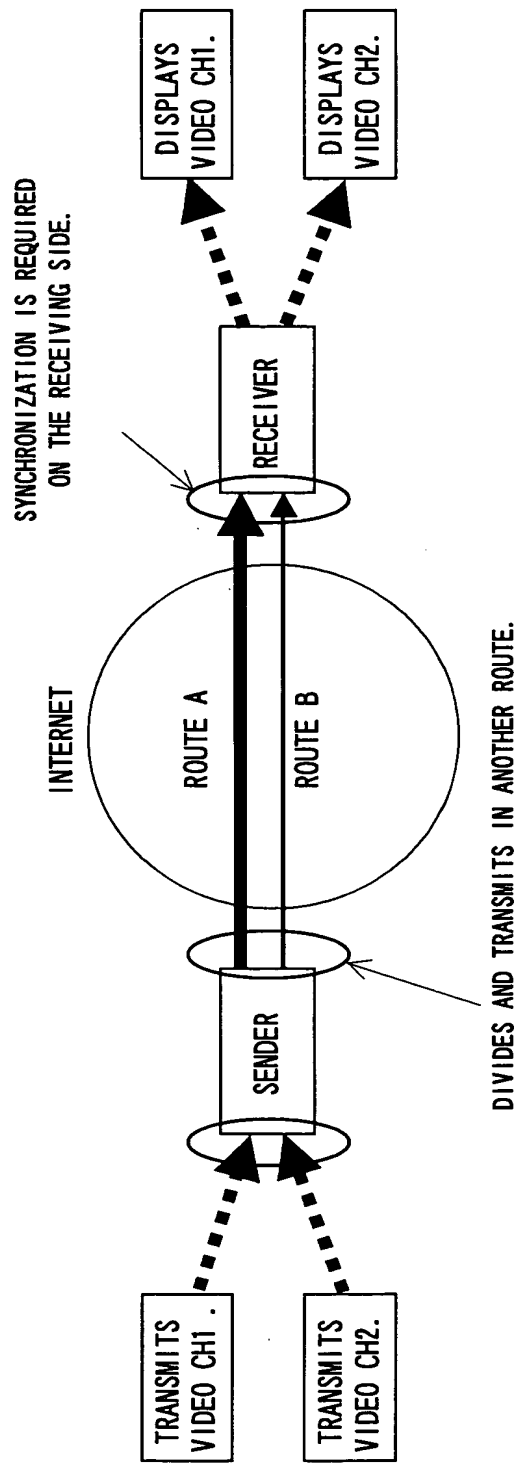


FIG. 73

INTERNET

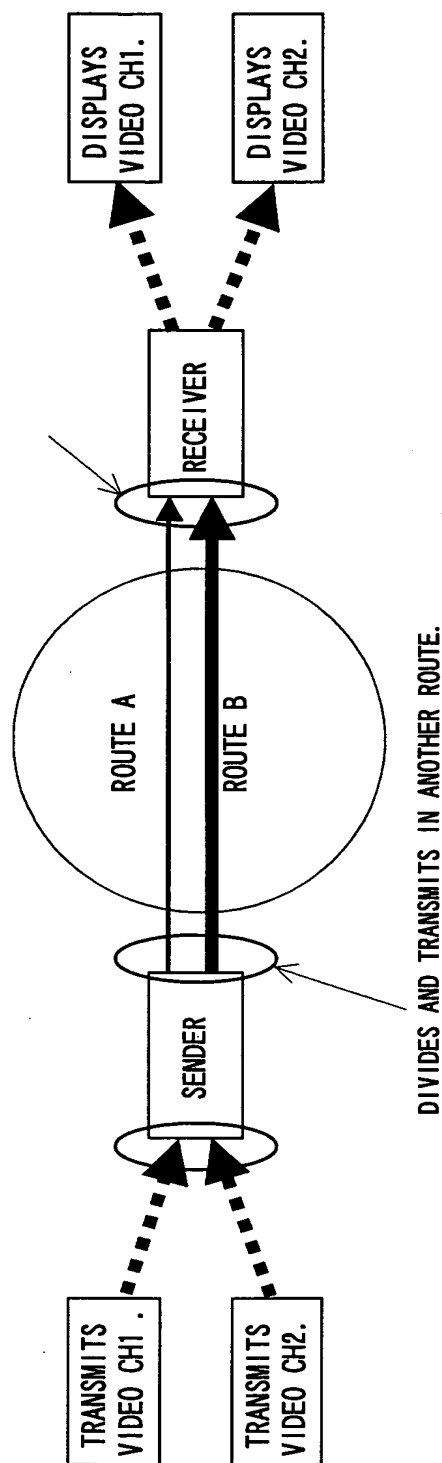


FIG. 74

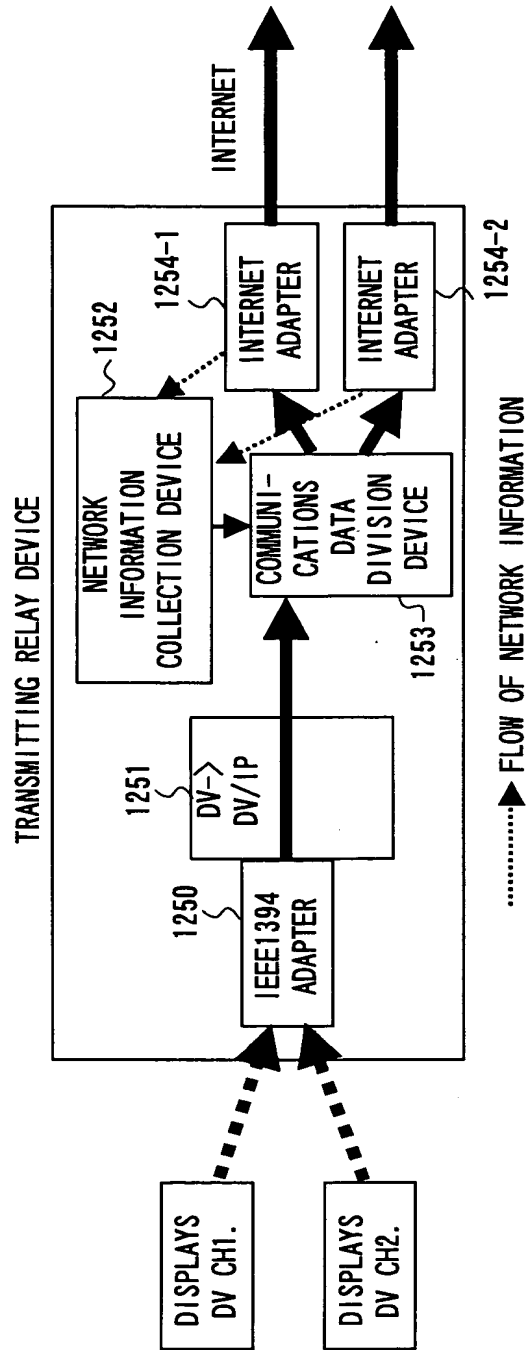


FIG. 75

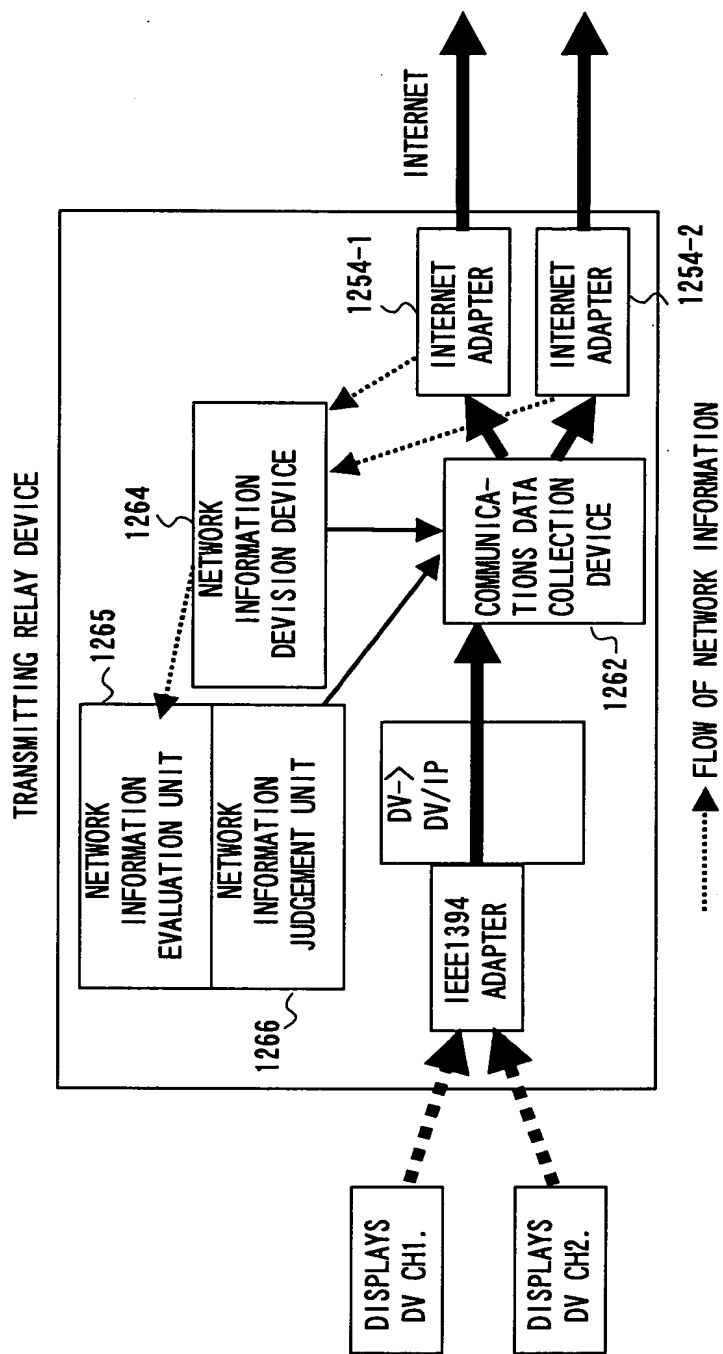


FIG. 76

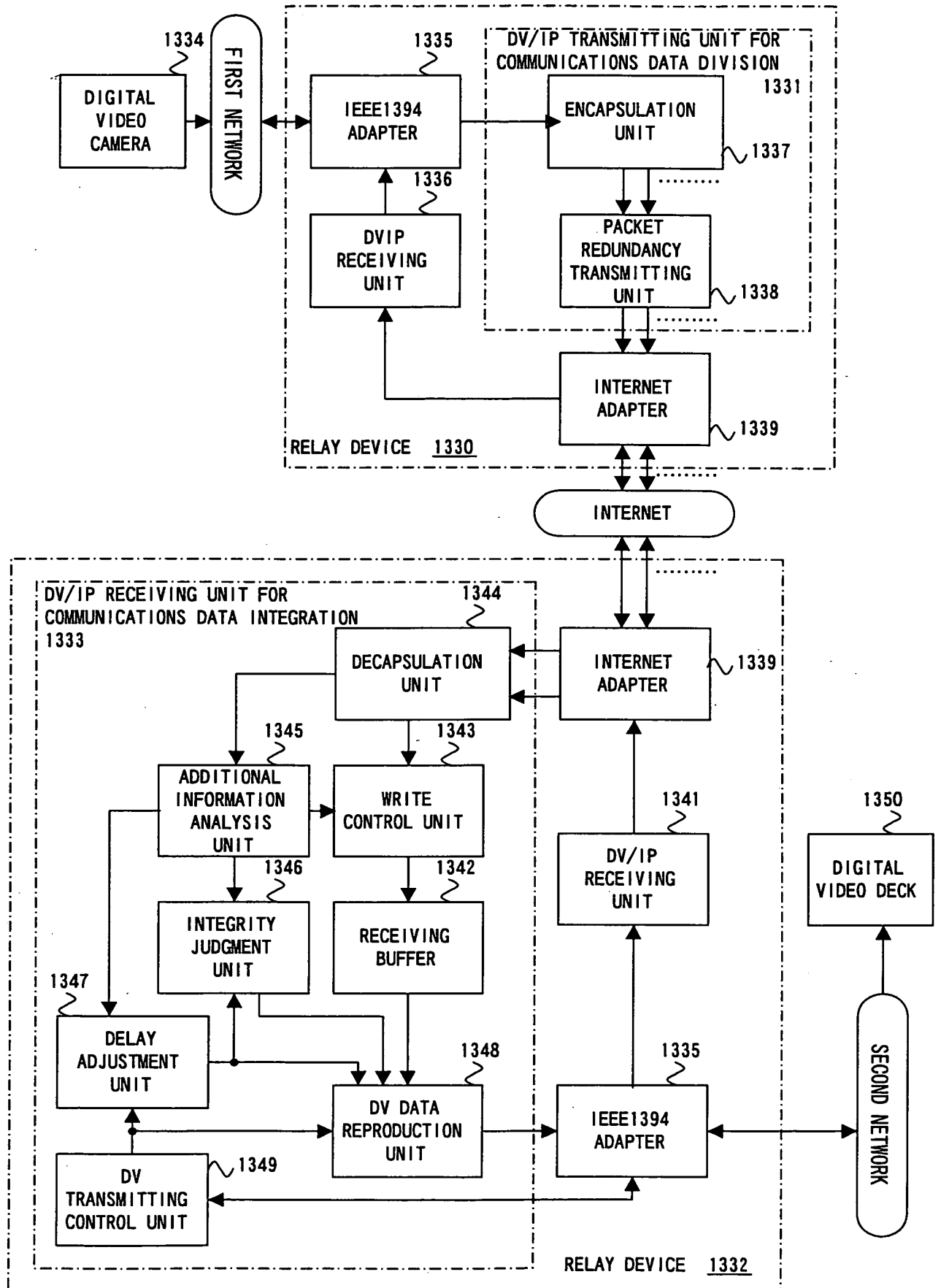


FIG. 77

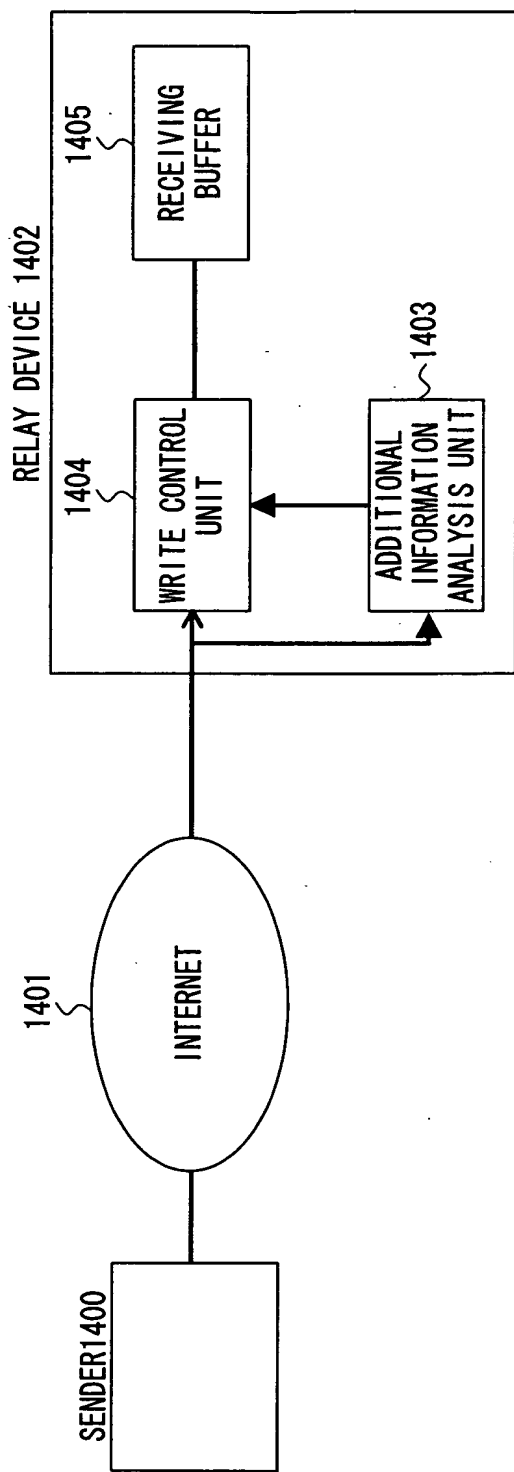


FIG. 78